FILE NO.

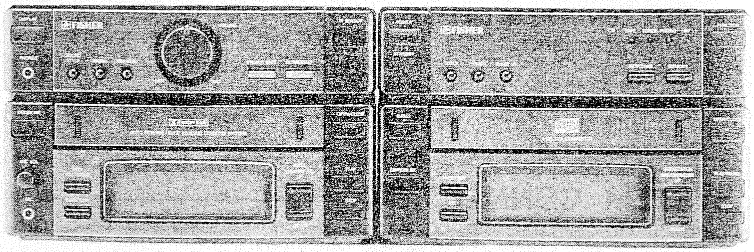
SERVICE MANUAL

FISHER

TAD S3

(DE)

Super Mini Component System



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PRODUCT CODE No.
129 365 03

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This Service manual is consist of "REM S3", "TUP S3", "CAC S3".

REFERENCE No. SM580049

ECIFICATION

NER/TIMER/CD PLAYER UNIT

ner

ception frequency	FM : 87.5 - 108 MHz AM : 522 - 1,611 kHz
able sensitivity	FM : 1.8μV (mono)

player

annels	2-channel stereo
npling frequency	44.1 kHz
k-up	Optical 3-beam semiconductor laser
quency response	20 - 20,000 Hz
w and flutter	Below measurable limits

neral

uts / Outputs	Audio input × 2 Audio output × 1 Video input × 1 Video output × 1 CD digital output × 1
wer requirements	AC : 230 V, 50 Hz
wer consumption	15 W
nensions(approx.)	180 (W) × 115 (H) × 260 (D) mm
eight(approx.)	2.5 kg

MOTE CONTROLLER (REM S3)

wer requirements	DC : 3V "R03 / AAA / UM-4" Battery × 2
nensions(approx.)	58 (W) × 18 (D) × 186 (H) mm

CASSETTE DECK / AMPLIFIER UNIT

Cassette decks

Track system	4-track, 2-channel stereo
Frequency response	Metal tapes : 40 - 13,500 Hz Chrome tapes : 40 - 13,500 Hz Normal tapes : 40 - 12,500 Hz
Signal to noise ratio	60 dB(with DOLBY NR : ON)
Wow and flutter	0.09% (WRMS)
Fast forward / rewind time	Approx. 110 sec. (C-60)

Amplifier

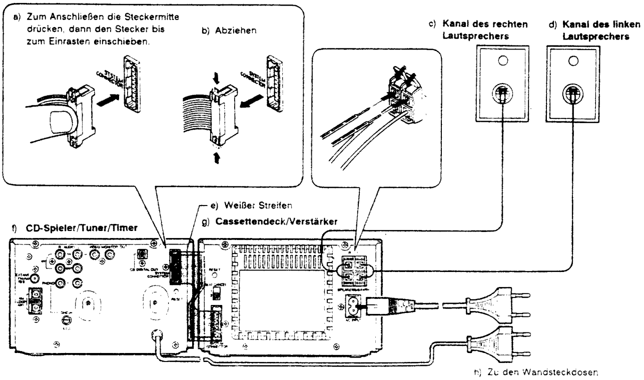
Output power	15W × 2 (at 6 ohms, 0.9% distortion)
Graphic equalizer	7 band electronic
Spectrum analyzer	7 band

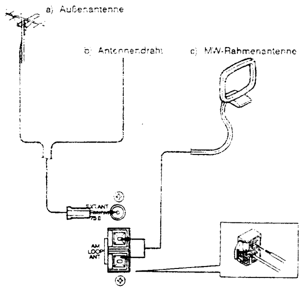
General

Power requirements	AC : 230 V, 50 Hz
Power consumption	55 W
Dimensions(approx.)	180 (W) × 115 (H) × 293.5 (D) mm
Weight(approx.)	3.7 kg

Specification subject to change without notice.

STEM CONNECTION

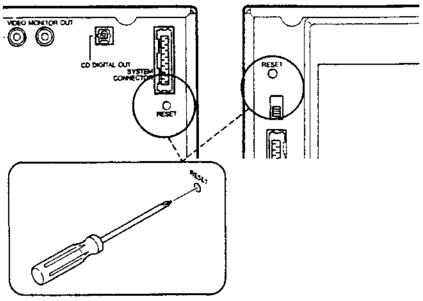

a) Zum Anschließen die Steckermitte drücken, dann den Stecker bis zum Einrasten einschieben.
b) Abziehen
c) Kanal des rechten Lautsprechers
d) Kanal des linken Lautsprechers
e) Weißer Streifen
f) CD-Spieler/Tuner/Timer
g) Cassettendeck/Verstärker
h) Zu den Wandsteckdosen


a) Außenantenne
b) Antennendraht
c) MW-Rahmenantenne
EXT ANT 75 Ω
AM LOOP ANT

OPERATING THE RESET SWITCH

This CD/TUNER and TAPE DECK/PRE-AMPLIFIER unit is provided with a reset switch on the rear panel. The reset switch serves to initialize the microprocessor in the each units which controls the CD, TUNER, TAPE DECK and etc block. If the unit is to be serviced or key input is not acknowledged even when the CD/TUNER, TAPE DECK and etc. operation buttons are pressed, press the RESET switch and initialize the microprocessor following the step below.

1). Disconnect the AC power cord from the power outlet.
2). Keep the RESET switch depressed for 60 seconds.
    (The backed up electrolytic capacitor is discharged by keeping the RESET switch depress.)
3). Reconnect the AC power cord to the power outlet.
4). Press the CD/TUNER, TAPE DECK and etc. operations, and check their operation.



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not list. To know those values, refer to the schematic diagram.
N.S.P : Not avairable as service parts.

PACKING

Ref. No.	Part No.	Description
	614 244 1190	INNER CARTON
	614 247 1807	PAD,PLAIN,TOP
	614 247 3054	PAD,CENTER
	614 247 3047	PAD,BOTTOM
	614 245 9430	INNER POLYE LAMINA COVER, TUNER/CD PLAYER UNIT
	614 246 1082	INNER POLYE LAMINA COVER, TAPE DECK/AMPLIFIER UNIT
	614 243 4468	INNER POLYE COVER,ANT
	614 223 3917	POLYE COVER,REMOCON
	614 244 0247	INNER POLYE COVER,INST & ACCESSORIES
	614 176 1039	INNER POLYE COVER,SCREW
	614 231 6832	LABEL,SAFETY,LASER CLASS
	614 247 3139	NOTICE

ACCESSORIES

Ref. No.	Part No.	Description
	614 244 1220	INSTRUCTION MANUAL
	614 243 2181	LOOP ANT,AM
	614 023 7344	ANTENNA,FM
	411 083 9307	SCR WOOD RND 3.1X13,AM ANT
	⚠ 614 023 1762	POWER CORD, TAPE DECK/AMPLIFIER UNIT
	614 226 7387	ASSY,CONNECTER-P,15P, TUNER/CD PLAYER UNIT TO TAPE DECK/ AMPLIFIER UNIT

REMOTE CONTROLLER UNIT

PARTS LIST

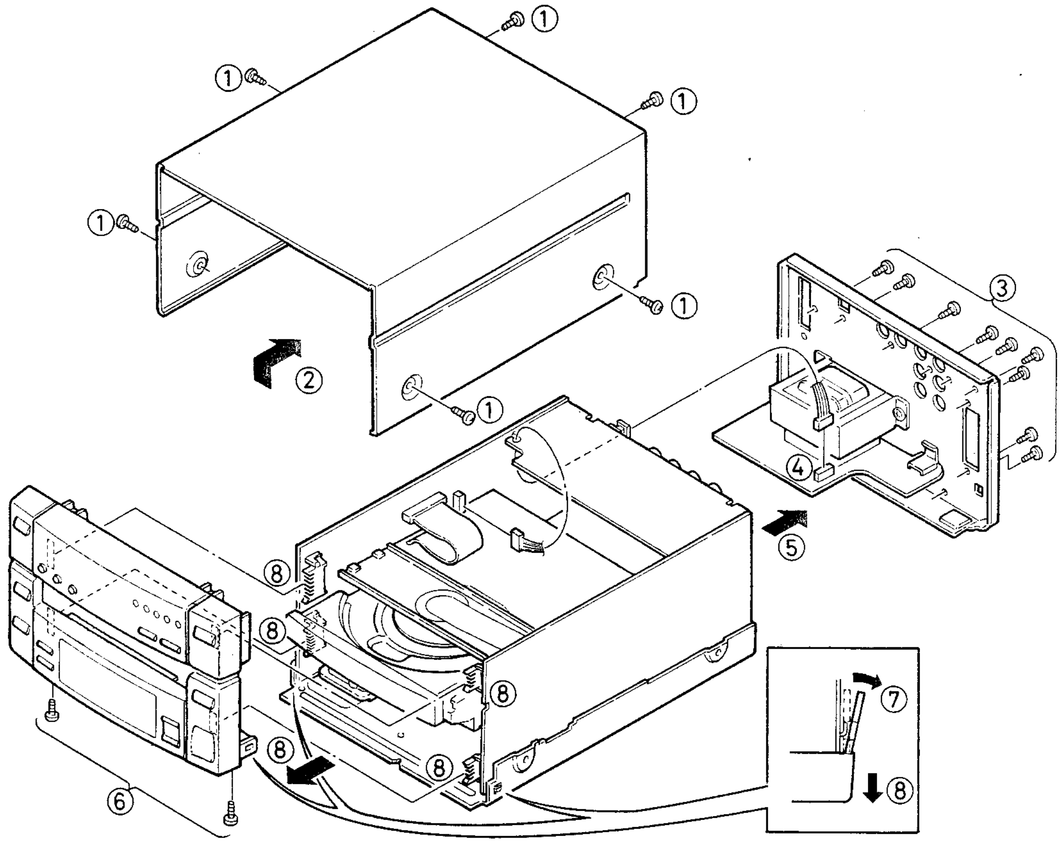
REMOCON (REM S3)

Ref. No.	Part No.	Description
	614 245 3063	ASSY,REMOCON
	614 223 3764	LID,BATTERY

TUNER / CD PLAYER UNIT

DISASSEMBLY

1. CABINET, FRONT & REAR PANEL



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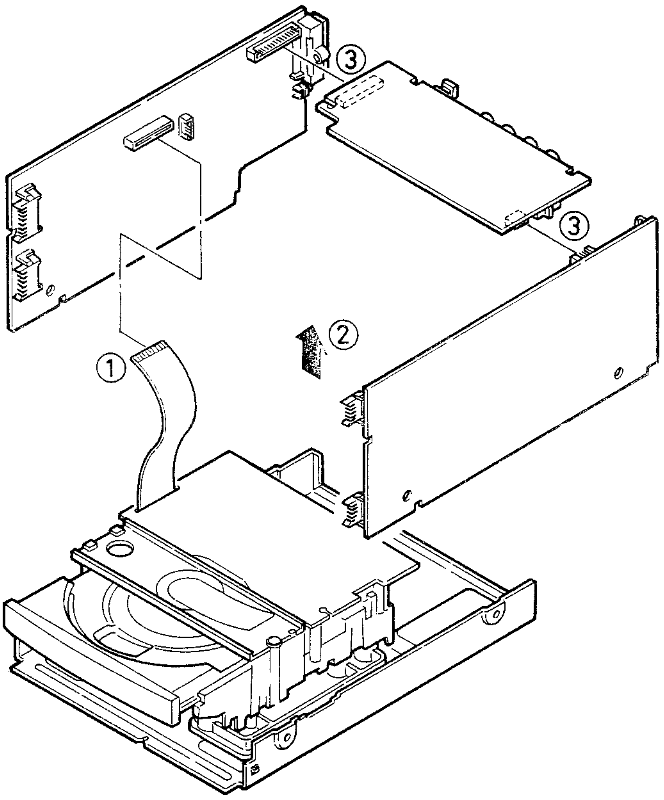
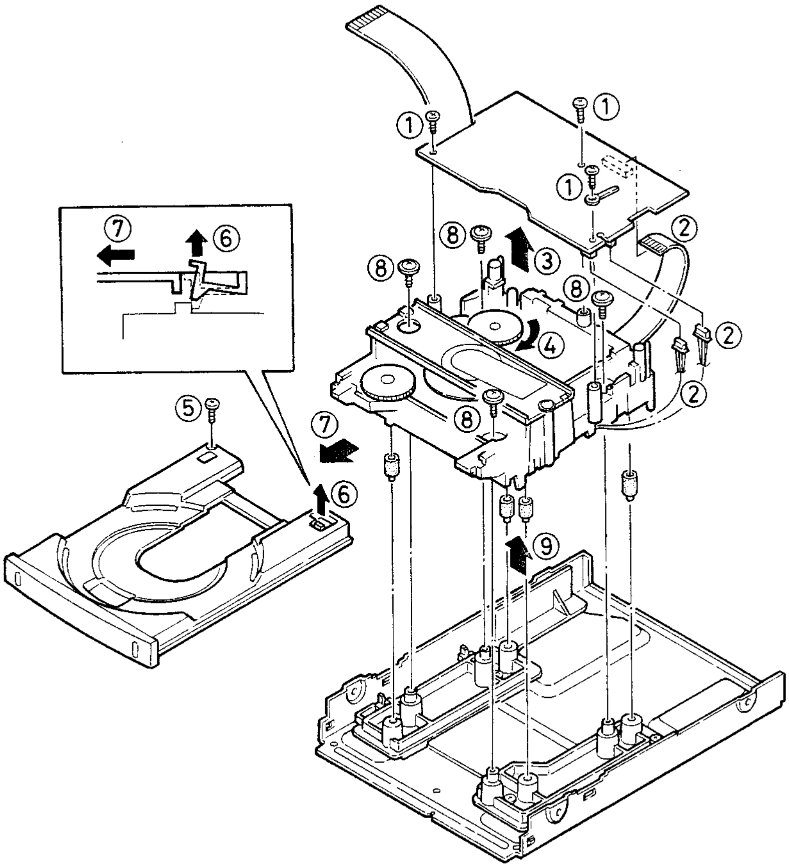
2. P. C. BOARD



DISASSEMBLY

3. CD MECHANISM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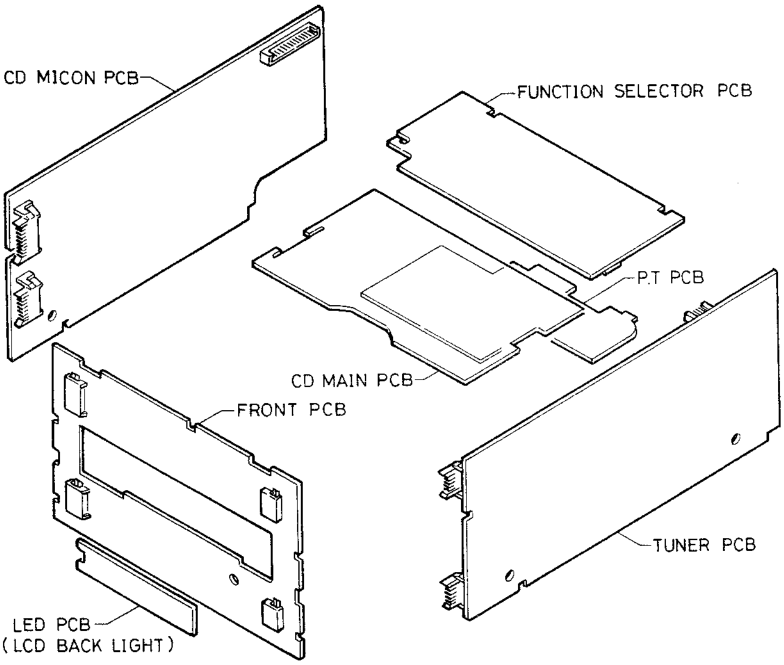
4. P. C. BOARD LAYOUT


CD MICON PCB
FUNCTION SELECTOR PCB
P.T PCB
CD MAIN PCB
FRONT PCB
TUNER PCB
LED PCB
(LCD BACK LIGHT)

ADJUSTMENT (TUNER)

- Use a plastic screwdriver for adjustment.
- Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.

1. FM BAND

SG RF Level : 75 ohm Open voltage dBμV

Antenna : 75 ohm Direct, Modulation : 1kHz, Dev. : ±75kHz (mono) · ±67.5kHz (main) · ±6.75kHz(pilot)

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	IF(0V)	98.0MHz (66dB)	FM SG	TP211(H) TP212(E)	Digital Voltmeter	TP203(H) #TP204(E)	T2202	0±0.05V
2	VCO	98.0MHz (66dB)	FM SG	TP211(H) TP212(E)	Frequency Counter	TP206(H) TP207(E)	SVR23	##19KHz±50Hz

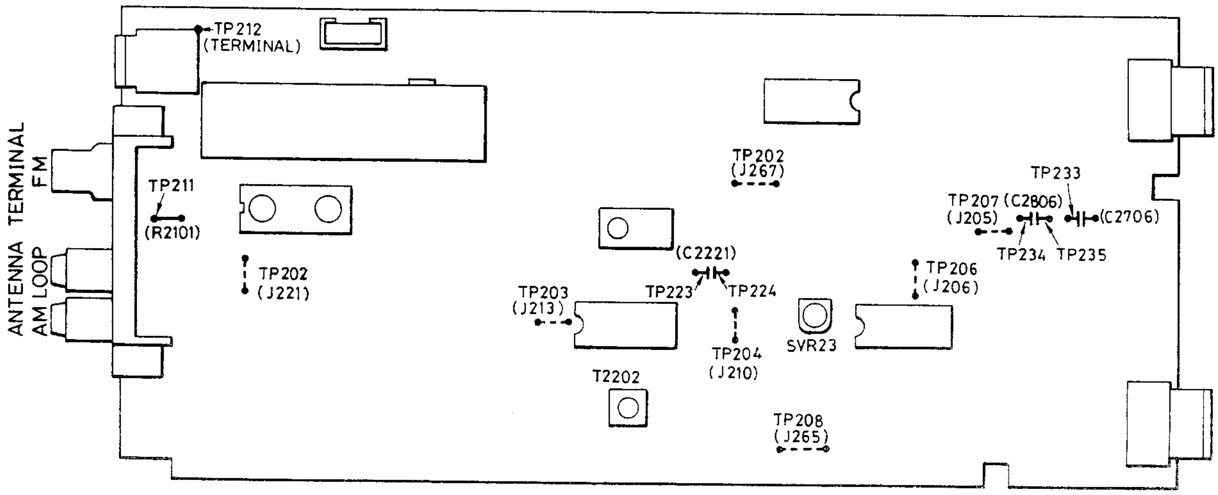
: TP204 is no earth point. ## : Adjust in the modulation off

2. AM BAND

Antenna : IRE Loop, Modulation : 400Hz 30%   SG RF Level : 75 ohm Open voltage dBμV

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	522kHz 1611kHz	------	------	Digital Voltmeter	TP202(H) TP207(E)	------	Confirm 1.1 ~ 1.5V Confirm ≦8.5V (about 6.5V)
2	TRACKING	603kHz 1404kHz	AM SG	LOOP ANT	VTVM Oscilloscope	TP233(L) TP234(R) TP235(E)	------ ------	Output : Maximum Confirm to near the effective sensitivity.

3. PARTS LOCATION


TP212
(TERMINAL)
ANTENNA TERMINAL
FM
AM LOOP
TP211
(R2101)
TP202
(J221)
TP202
(J267)
TP203
(J213)
(C2221)
TP223
TP224
TP204
(J210)
SVR23
T2202
TP208
(J265)
TP206
(J206)
TP207 (C2806)
(J205)
TP233
(C2706)
TP234
TP235

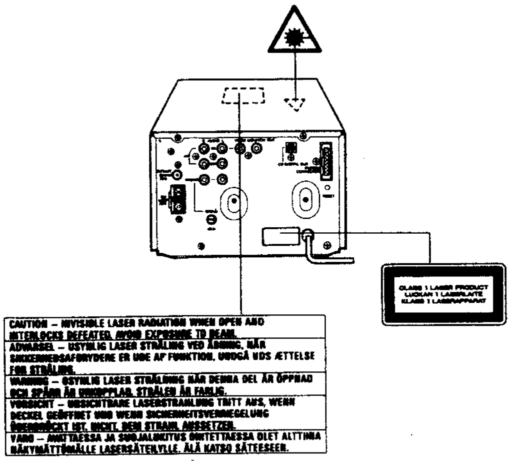
LASER BEAM SAFETY PRECAUTIONS (CD)

Do not look directly at the laser beam coming from the pick-up or allow it to strike against your fingers, skin, etc.
Do not apply power if there is a broken part in the laser output section of the pick-up.

Structural Safety Interlock

This model has a disc chuck lever and top lid. This disc chuck lever and top lid prevent to expose the laser beam for users.

INVISIBLE LASER RADIATION EXPOSURE TO BEAM IS DANGEROUS CLASS 1 LASER PRODUCT
OUTPUT POWER : 0.6 mW MAX WAVELENGTH : 790 nm


CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT
CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.
VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHL AUSSETZEN.
VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

CAUTION - USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

ACHTUNG - WENN ANDERE ALS DIE HIER SPEZIFIZIERTEN BEDIENUNGS- ODER JUSTIEREINRICHTUNGEN BENÜTZT ODER ANDERE VERFAHRENS-WEISEN AUSGEFÜHRT WERDEN, KANN DIES ZU GEFÄHRLICHER STRAHLUNGSEXPOSITION FÜHREN.

ATTENTION - L'EMPLOI D'ORGANES DE COMMANDE OU DE RÉGLAGE, OU L'EXÉCUTION DE PROCÉDURES, AUTRES QUE CEUX SPÉCIFIÉS DANS LE MODE D'EMPLOI, PEUT PROVOQUER UNE EXPOSITION DANGEREUSE AU RAYONNEMENT.

OPGELET - HET GEBRUIK VAN REGELAARS OF HET MAKEN VAN AFSTELLINGEN E.D. DIE NIET IN DEZE GEBRUIKSAANWIJZING ZIJN BESCHREVEN KAN LEIDEN TOT SCHADELIJKE STRALINGEN.

VARNING! OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN VAD SOM BESKEIV I DENNA BRUKSANVISNING, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

CAUTELA - L'USO DI COMANDI, AGGIUSTAMENTI O PROCEDIMENTI DIVERSO DA QUELLO QUI SPECIFICATO PUÒ DAR LUOGO AD ESPOSIZIONE A RADIAZIONI PERICOLOSE.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

BEFORE REPAIRING THE CD PLAYER (CD)

Many semiconductors (ICs and transistors) and a pickup (with a built-in laser diode) for reading the music signals on compact discs by means of a laser beam are used as the parts in the compact disc player unit.

1. Precautions for handling the pickup and semiconductors (particularly the ICs)

1) The pickup and semiconductors (particularly the ICs) may be damaged if they come into contact with a source of high voltage static electricity. Do not bring them, therefore, into contact with or into the vicinity of anything which has been charged with high voltage static.

2) The pickup consists of a large number of optical and precision parts. Do not store or repair it, therefore, in any location with a high temperature, high humidity, high magnetic fields or high dust concentration. (Since the pickup contains a powerful magnet, it must not be brought near any magnetized objects.)

3) Do not apply strong external pressure to the pickup or subject it to impact. Actions like these can cause the printed circuit board to crack or malfunctioning to occur.

4) Do not use a pickup which has been subjected to strong external pressure or to an impact. The performance of such a pickup may deteriorate gradually and cause malfunctioning.

5) The pickup is a single integrated part which has been very precisely adjusted. Therefore, its adjustment points and set screws must not be touched.

2. How to prevent static during handling

1) When replacing any of the parts, disconnect the power plug from the unit being repaired.

2) All measuring instruments, tools and repair equipment must be grounded. Cover the work bench where the repair work will be done with a grounded electrically conductive sheet.

3) Ground the metal part of the soldering iron in order to safeguard against leakage of electricity from the heater.

4) Repair personnel must wear grounding bands around their wrists to discharge static picked up by their bodies. These bands are grounded through a resistor (with a 1M ohms resistance).
Note: Under no circumstances must be the grounding bands be grounded without a resistor (with a 1M ohms resistance) since doing so involves the risk of electric shocks.
Since static in the clothes of the repair personnel will not be discharged by wearing grounding bands, every care must be taken not to allow the clothes to touch the pickup and semiconductors (particularly the ICs).

5) The pickup, which is a single integrated part, is kept in a conductive bag. Use this bag to convey the pickup from one place to another. In order to avoid damage resulting from static which may occur when the pickup is removed from the bag, make sure that it is not placed on top of the bag.

3. Precautions with laser beam

1) Do not look straight at the laser beam from the pickup and do not point the beam at your fingers or any other part of your body.
Note: The laser beam must never be allowed to enter the eyes since this may damage the eyes.

2) Power must never be supplied to a pickup with a damaged laser output part (objective lens, etc.).

4. Cleaning the lens surface

1) Blow off dust on the lens using the kind of air brush which is used for cameras.

2) Remove stubborn dirt with a cotton swab dipped in isopropyl alcohol. Do not use any other type of cleaning fluid since it may mark the plastic lens.
Notes:
◇ Do not use too much isopropyl alcohol: the excess may seep inside the pickup.
◇ The lens is held in place by a very feeble support spring. Therefore, when cleaning the lens, avoid applying any more force by the cotton swab than is necessary since this may bend the support spring out of shape.

CD MECHANISM REMOVAL

1) Preparations

1) Do not apply unnecessary force to the pickup when handling it. Care should be taken not even to touch the lens or drive circuit sections.

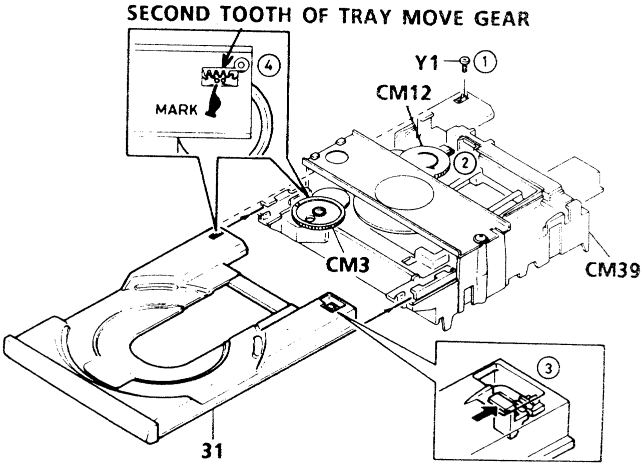
2) Do not apply unnecessary force (do not pull or push it forcefully) to remove the disc tray from its inside position. Unnecessary force may break the teeth on the tray gear (CM6).

3) In the descriptions which follow, the numbers in the parentheses after the parts are reference numbers in the exploded views. Refer to these views.

2) Removing and installing the disc tray

1) Remove the stop screw (Y1) of the disc tray (31). (①)
2) Pull the disc tray (31) all the way forward by turning the tray drive gear (CM12) clockwise. (②)
   Note: Do not take hold of the disc tray (31) and pull it out by force.
3) Push the catch on the disc tray (31) in the direction shown by the arrow, and draw out the disc tray (31). (③)
4) To install the disc tray, turn the gear (CM12) in the direction of the arrow as far as it will go. (②)
5) Align the disc tray (31) with the mechanism chassis (CM39). Adjusting second tooth of the tray move gear (CM3). (④)
6) Push the disc tray (31) toward the rear, and interlock it with the tray drive gear (CM12) as shown in Fig.④ .
7) Secure it with the screw (Y1) which was removed in step 1).

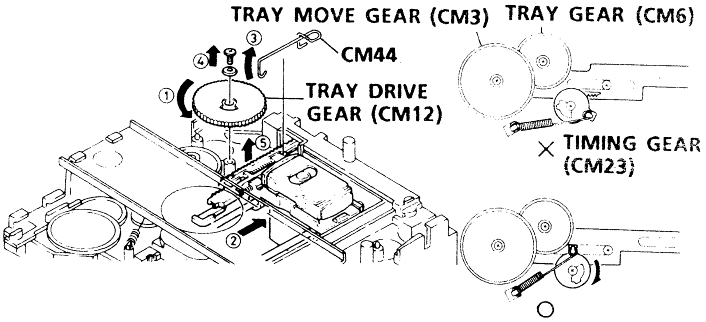
DISC TRAY REPLACEMENT



3) Disassembling the mechanism

(1) Removing the pickup block

1) Remove the disc tray (31). (Refer to steps 1), 2) and 3) of the section entitled "Removing and installing the disc tray.")
2) Turn the tray drive gear (CM12) counterclockwise (①), and move the pickup in the direction of arrow (②) as far as it will go.
3) Remove the spring wire (CM44) with tweezers. (③)
4) Remove the screw (CM11), and also remove the tray drive gear (CM12) and washer (CM13). (④)
5) Now remove the pick rack gears (CM16 and CM19).
   Note: It will not be possible to remove the pick rack gears (CM16 and CM19) unless the pickup has been moved all the way in the direction of arrow (②).
6) The pickup block can now be removed by taking out the screw (CM51) and spring coil (CM49).
   Note: If the timing gear (CM23) is in the state shown by "X" in the figure on the right, put it in the state shown by "O".



MECHANISM REMOVAL (CD)

(2) Replacing and lubricating the pickup

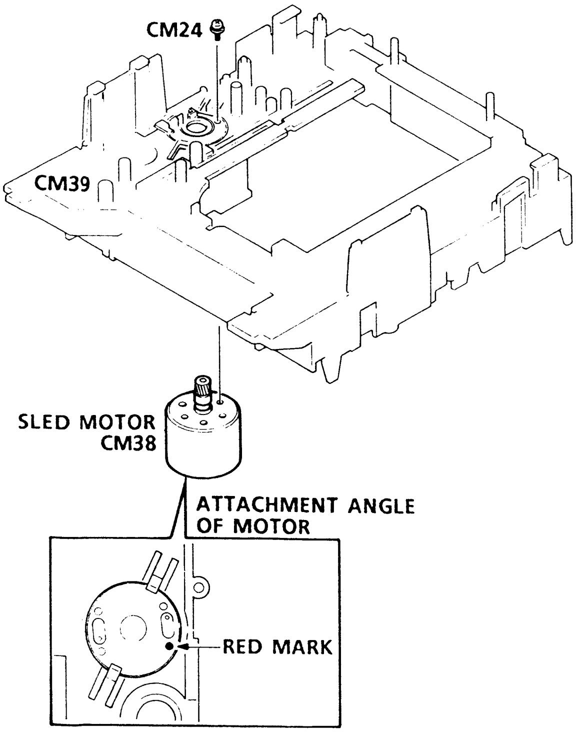
1) Pull out the two pickup rails (CM43) from the chassis (CM50).
2) The pickup (CM52) can now be removed once the two pickup rails (CM43) have been taken out.
3) When the pickup has been replaced, be sure to wipe the two pickup rails (CM43) cleanly and apply grease (FLOIL G-474B) around the entire circumference of the rails and along their entire length.
4) Pass the two pickup rails (CM43) through the new pickup (CM52), insert them into the chassis (CM50), and fix them in place at an angle of 45° as shown in the figure.

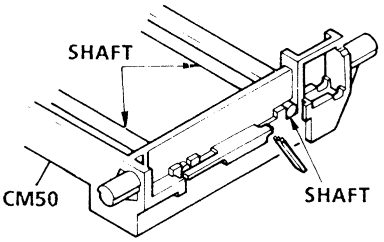
Notes: a. When applying the grease, do not allow any grease to adhere to any other parts.

b. If a part (indicated by the dots in the figure) of the chassis (CM50) is damaged in the process of removing or inserting the two pickup rails (CM43) from or into the chassis (CM50), wipe the damaged area with a cloth dipped in alcohol (normal hexane), and bond it together using a bonding agent (Cemedine #575).

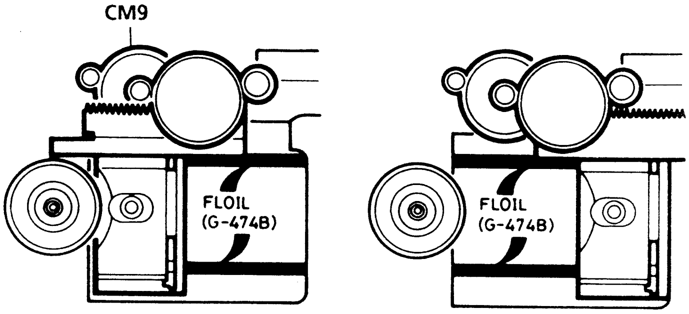
(3) Replacing the loading/sled motor

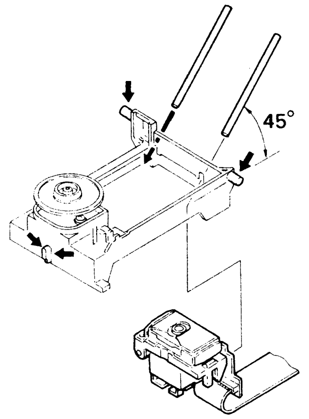
1) The loading/sled motor (CM38) can be removed from the chassis (CM39) once the screw (CM24) securing the motor (CM38) is removed.
2) Mount the new loading/sled motor (CM38) onto the chassis (CM39) using the screw (CM24).

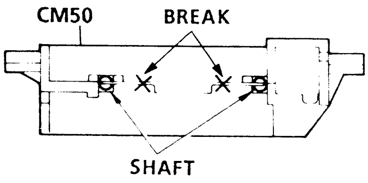

CM24
CM39
SLED MOTOR
CM38
ATTACHMENT ANGLE
OF MOTOR
RED MARK


SHAFT
CM50
SHAFT

FIX BY THE CEMEDINE #575

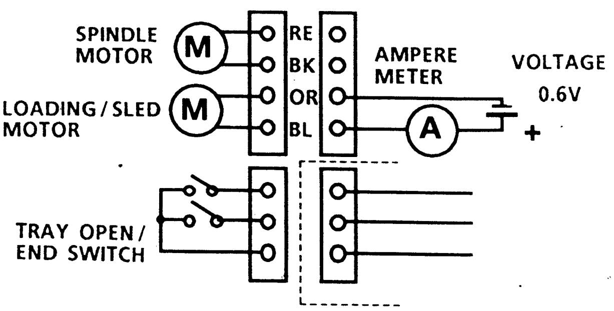

CM9
FLOIL
(G-474B)
FLOIL
(G-474B)




CM50
BREAK
SHAFT

(4) Checking the loading/sled motor's operation

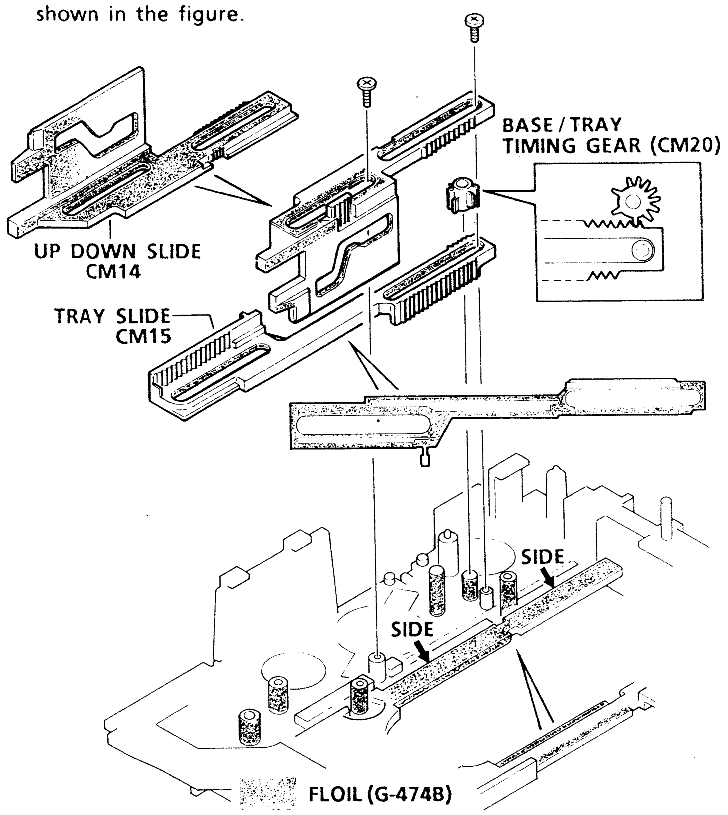
1) As shown in the figure, connect an ammeter and a DC power supply to the loading/sled motor (CM38), and set the tray open and end switches to the "off" [open] positions.
2) Check that the pickup (CM52) moves smoothly without stopping from the inner circumference of the compact disc toward its outer circumference when a DC 0.6V voltage is applied from the DC power supply.
3) The disc tray is housed inside and the gear (CM9) slips when a DC 4V voltage is applied from the DC power supply. Check that the ammeter indicates 120mA or more at this time.


SPINDLE
MOTOR
M
RE
BK
LOADING/SLED
MOTOR
M
OR
BL
AMPERE
METER
A
VOLTAGE
0.6V
+
TRAY OPEN/
END SWITCH

4) Check points for CD mechanism assembly and lubrication

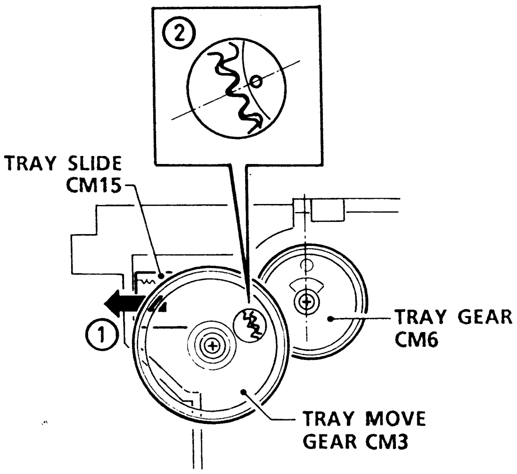
(1) Lubricating and mounting the tray slide

1) Apply grease (FLOIL G-474B) to the area indicated by the diagonal in the figure.
2) When inserting the tray slide (CM15), set the position where it is installed vis-a-vis the base/tray timing gear (CM20) as shown in the figure.


BASE / TRAY
TIMING GEAR (CM20)
UP DOWN SLIDE
CM14
TRAY SLIDE
CM15
SIDE
SIDE
FLOIL (G-474B)

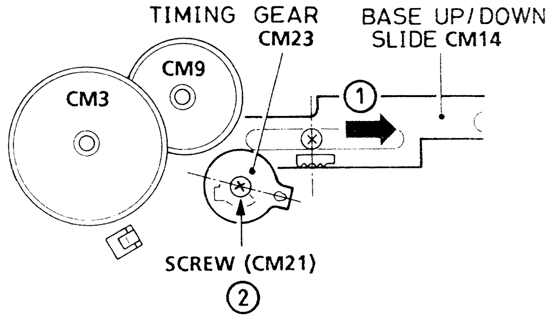
(2) Installing the tray gear

1) Move the tray slide (CM15) in the direction of the arrow ①.
2) Engage the gear section of the tray slide (CM15) with the inner gear of the tray gear (CM6) at the center line, as shown in the figure.
3) Align the tray move gear (CM3) with the position (○) of the hole in the outer gear of the tray gear (CM6) and engage the tray move gear (CM3), as shown in the figure.

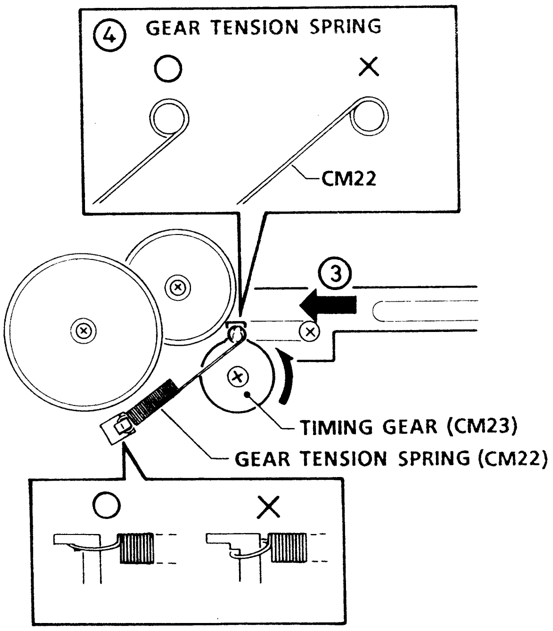

②
TRAY SLIDE
CM15
①
TRAY GEAR
CM6
TRAY MOVE
GEAR CM3

(3) Installing the base up/down slide and timing gear

1) Move the base up/down slide (CM14) in the direction of the arrow ①, and set the gears at the positions shown in the figure.
2) Insert the timing gear (CM23), and mount it using the screw (CM21).
3) Turn the timing gear (CM23) counterclockwise.


TIMING GEAR
CM23
BASE UP/DOWN
SLIDE CM14
CM9
CM3
①
SCREW (CM21)
②

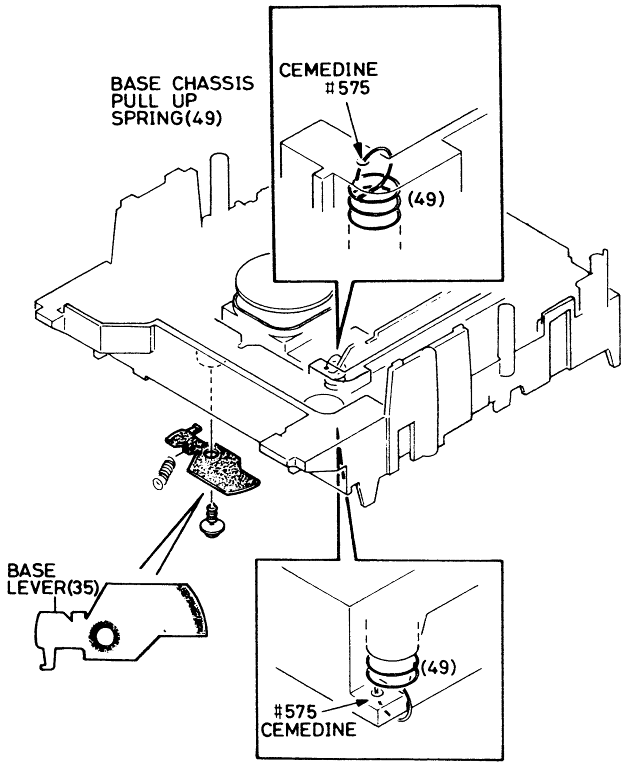
4) Hook the gear tension spring (CM22) onto the timing gear (CM23).


④ GEAR TENSION SPRING
○
×
CM22
③
TIMING GEAR (CM23)
GEAR TENSION SPRING (CM22)
○
×

MECHANISM REMOVAL (CD)

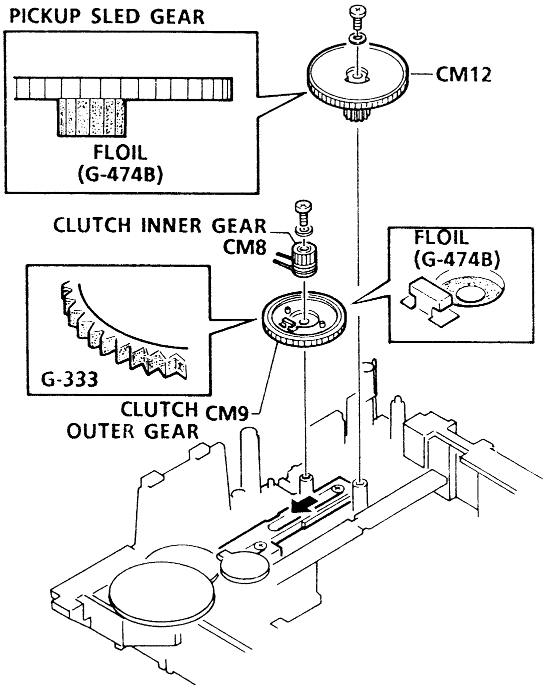
(4) Lubricating the base lever

Apply grease (FLOIL G-474B) to the ▒ area in the figure.


BASE CHASSIS
PULL UP
SPRING(49)
CEMEDINE
#575
(49)
BASE
LEVER(35)
(49)
#575
CEMEDINE

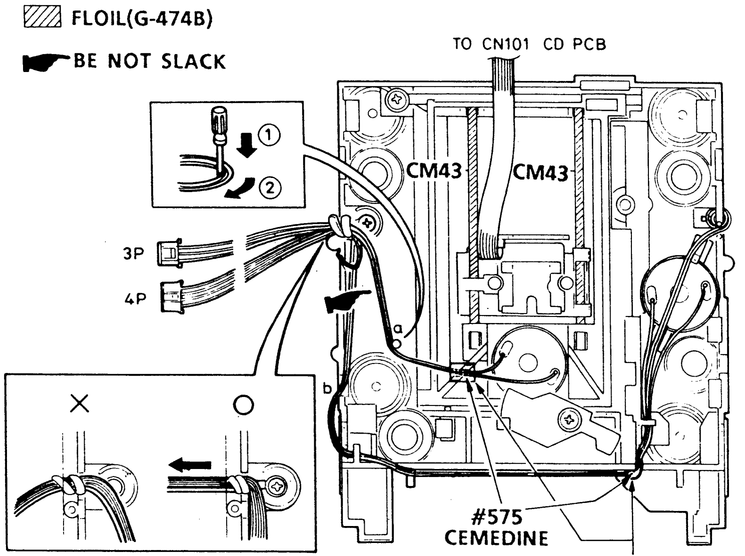
(5) Lubricating the pickup sled gear and clutch gear

1) Apply grease (FLOIL G-474B) around the entire circumference of the lower gear of the pickup sled gear (CM12), as shown in the figure (▒ area).
2) Apply grease (G-333) around the entire circumference of the outer clutch gear (CM9).
3) Apply grease (FLOIL G-474B) to the ▒ part of the outer clutch gear (CM9) where it makes contact with the inner clutch gear (CM8).


PICKUP SLED GEAR
FLOIL
(G-474B)
CM12
CLUTCH INNER GEAR
CM8
FLOIL
(G-474B)
G-333
CLUTCH CM9
OUTER GEAR

(6) Arranging and securing the leads

1) As shown in the figure, set the pickup (CM52) at a position on the innermost circumference of the compact disc, and pass the leads from the pickup (CM52) and spindle motor (CM48) through pin (a) of the chassis (CM39). Arrange the leads from the loading/sled motor (CM38) and sensor switch (micro switch) (CM26) by passing them through point (b) in the chassis (CM39). After securing the leads with the lug (CM41), check that the pickup (CM52) moves smoothly without the leads interfering with its movement.
2) If no problems arise in the ① check, secure the points shown in the figure using a bonding agent (Cemedine #575).


▨ FLOIL(G-474B)
BE NOT SLACK
TO CN101 CD PCB
①
②
CM43
CM43
3P
4P
a
b
×
○
#575
CEMEDINE
CUSHION

NOTE THE LUG PORTION

SERVICE MODE

Specifications

To enter any service mode other than timer debugging, first simultaneously press the OPEN/CLOSE and BAND keys on the CT unit. This accesses the service mode entry state. Now press one of the buttons on the CT unit to enter a service mode. As the service mode entry state is discontinued after 1 second elapses, the system will enter a service mode only if the next key is pressed within one second.

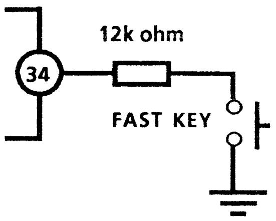
1. Confirm the clock

- When the CLOCK key is pressed during the service mode entry state, a rectangular wave with a frequency of one- fourth that of the oscillating frequency (1.048576MHz) is output from the micro processor's port CLKOUT.
- The clock output is stopped by pressing either the POWER or SET CLEAR key.

2. Timer debugging

- When the FAST key is pressed, the current time advances one minute and the seconds readout changes to 55 seconds. If the key is held down the time advances continuously.
- The FAST key, a concealed key not actually mounted to the set.

Note : For timer debugging, the service mode entry state (entered by simultaneously pressing the OPEN/CLOSE service mode entry key and the BAND key) is not necessary.


12k ohm
34
FAST KEY

3. Checking the key input signal connections

- Enter this mode by pressing the MEMORY(TUNER) key during the service mode entry state.
- The entire LCD goes out once this mode is entered.
- In this mode, as keys on the CT unit (or remote control unit) are pressed segments on the LCD corresponding to each key on a one-to-one basis come on (i.e. the lit portions gradually increase). (Refer to Table 1.)

KEY	DISPLAY	KEY	DISPLAY	KEY	DISPLAY
TIME / FADE	TIME	CLOCK	REC	FUNCTION	DIGIT 3 : 8
REPEAT	REPEAT	SLEEP	SLEEP	BAND	DIGIT 4 : 8
STOP	ONE	TUNING UP	SIDE A	PST UP	1 OF CALENDAR
CD MEMORY	PROG.	TUNING DOWN	SIDE B	PST DOWN	2 OF CALENDAR
PLAY / PAUSE	▻	WAKE UP	WAKE UP	FM/TUNE MODE	3 OF CALENDAR
RANDOM	RANDOM	TIMER	TIMER	WIDE	4 OF CALENDAR
OPEN / CLOSE	ALL	SET / CLEAR	@	FWD	DISC
EDIT	EDIT	MEMORY	5 OF CALENDAR	BACK	TRACK
COMPUTER REC	COMP. REC	POWER	DIGIT 2 : 8		

@ : Releases the key checking mode and returns the set to the normal mode.

TABLE 1 : CORRESPONDING KEYS AND DISPLAYS IN THE KEY CHECKING MODE

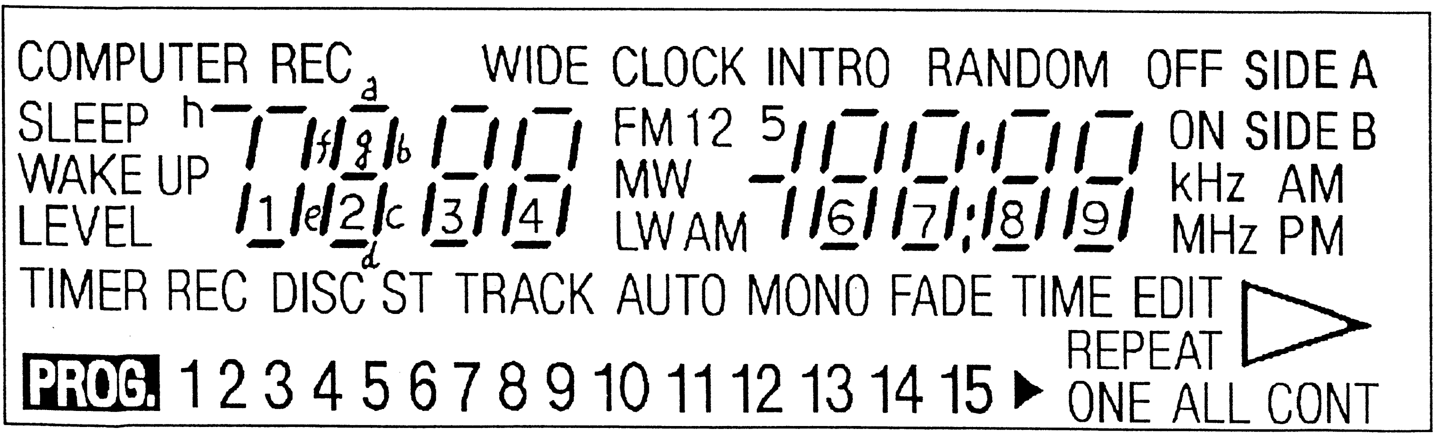

COMPUTER REC
a
WIDE
CLOCK
INTRO
RANDOM
OFF
SIDE A
SLEEP
h
f
g
b
FM 1 2
5
ON
SIDE B
WAKE UP
MW
kHz
AM
LEVEL
1
e
2
c
3
4
LW AM
6
7
8
9
MHz
PM
d
TIMER REC
DISC
ST
TRACK
AUTO
MONO
FADE
TIME
EDIT
PROG.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
REPEAT
ONE
ALL
CONT

FIGURE 1 : LCD (LIQUID CRYSTAL DISPLAY)

4. Checking LCD connections

- Enter this mode by pressing the OPEN/CLOSE key during the service mode entry state. (See note.)
- The entire LCD goes out once this mode is entered.
- In this mode, one segment of the LCD lights each time the OPEN/CLOSE key is pressed.
- Press the SET/CLEAR key to exit this mode and return to the normal mode.

5. System connector checking mode

- Enter this mode by pressing the BAND key during the service mode entry state.
- Before entering this mode, connect a jig at the beginning of the system connector cord as shown in Figure 2.
- In this mode, check the signal connections shown in Table 2 for the set's CT unit and system connector cord.
- The results of the checking of connections appear on the LCD as shown in Table 2.
- Press the SET/CLEAR key to release the system connector checking mode and return to the normal mode.

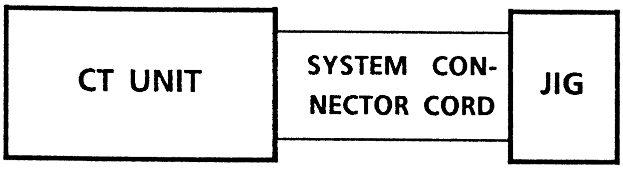


FIGURE 2 : CONNECTION DURING THE SYSTEM CONNECTOR CHECKING MODE

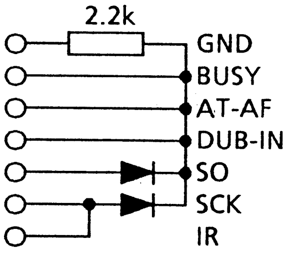


FIGURE 3 : CIRCUIT DIAGRAM OF THE CONNECTOR CHECKING JIG

STATE	DISPLAY
SO is N.G.	0
SCK is N.G.	1
DUB-IN is N.G.	2
AT-AF is N.G.	3
BUSY is N.G.	4
IR is N.G.	5
KEY-0 is N.G.	6
All OK	-

TABLE 2 : DISPLAYS DURING SYSTEM CONNECTOR CHECKING

6. CD tracking balance adjusting mode

- Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.
- In this mode, the tracking balance adjustment state (tracking is off) is automatically entered after the tray is completely closed. If the PLAY key is pressed in this state, the tracking servo is turned on and playing is begun at the present position. Therefore, the readout on the display at the time playing is begun indicates the initial position of the pickup (i.e. the position of the limit switch).
- In this mode, the tracking balance adjustment state can be entered by pressing the MEMORY key during playing. Pressing the PLAY key in this state turns on the tracking servo and causes playing to begin.
- Turning off the power releases the CD tracking balance adjusting mode.

7. CD operation display mode

- Enter this mode by pressing the STOP key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.

SERVICE MODE

- In this mode, when CD function are used, displays like those shown in Table 3 (which represent CD operations different than normally displayed) appear in the LCD track number display.
- In this mode, the calendar numbers shown in Table 4 come on when an error occurs in CD operations, at which time the track number and calendar displays become fixed at their current readouts. To release these fixed displays, press the STOP key while operations are stopped.
- This mode is released when the power is turned off.

DISPLAY	OPERATION
00	Focus search has been begun
01	Focus search has been begun
02	Waiting for focusing
03	Focusing
04	Spindle kick is in progress
05	Both CLV and tracking are ON
06	Both CLV and tracking are ON
0 -	Focus search has been completed (success, failure)
20	Tray closing has begun
21	Tray closing is in progress
22	Pick return (internal direction) is in progress
23	Pick return (external direction) is in progress
2 -	Tray closing (pick return) has been completed
30	Spindle braking has begun
31	Spindle braking is in progress
32	Pick return is in progress
3 -	Spindle braking and pick return have been completed
40	Fast forwarding is in progress
41	Rewinding is in progress
50	Playing has begun
51	Playing is in progress
52	Playing is in progress (skip return operation)
60	TOC reading has been begun
61	TOC reading is in progress
62	TOC reading is in progress
6 -	TOC reading has been completed (success/failure)
70	L-point access has been begun
71	L-point access (REV64 track jump)
72	L-point access (FWD64 track jump)
73	L-point access (REV16 track jump)
74	L-point access (FWD16 track jump)
75	L-point access (REV1 track jump)
76	L-point access has been completed
80	Pausing has begun
83	Pause (REV16 track jump)
84	Pause (FWD16 track jump)
85	Pause (REV1 track jump)
86	Pause (trace)
90	Music access has begun
91	Music access (high-speed access has begun)
92	Music access (high-speed access is in progress)
93	Music access (high-speed access has been completed)
94	Music access (high-speed access has been completed)
95	Music access (high-speed access has been completed)
96	Music access (REV64 track jump)
97	Music access (FWD64 track jump)
98	Music access (REV16 track jump)
99	Music access (FWD16 track jump)
9 -	Music access (final stage)

TABLE 3 : DISPLAYS DURING THE CD OPERATION MODE

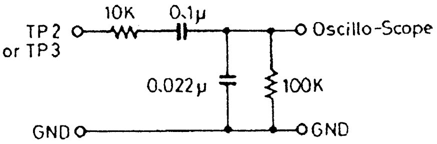
NUMBER	STATE OF CD ERROR
1	Focusing is not possible in focus search.
2	The subcode is not input during disc startup.
3	TOC cannot be read.
4	The focus was lost while the servo was on (during playing, etc.).
5	The subcode is not input while the servo is on (during playing, etc.).
6	The tray does not open completely.
7	The tray does not close completely.

TABLE 4 : DISPLAY OF CD ERRORS

CD ADJUSTMENT

Electrical Adjustment

So far we have presented explanations regarding compact disc player handling, notes prior to repair, handling the pick-up and disassembly of the unit. Be sure to carefully read these instructions before making any adjustments.



BAND PASS FILTER

Preparations for Adjustments

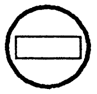
Measuring instruments, tools and filter

(1) Test disc. : YEDS 18 (Sony)
(2) Oscilloscope : SS5711 (10MHz or dual phenomenon)
 or Memoryscope : DSS6521 (Storagescope)
(3) Digital voltmeter (Input impedance 1M ohm or more)
(4) Oscillator (400Hz, 300mV RMS)
(5) Frequency Counter (5MHz ; or more)
(6) Screw drivers (non-metalic) for adjustments
(7) Band Pass Filter
(8) AC Voltage Meter

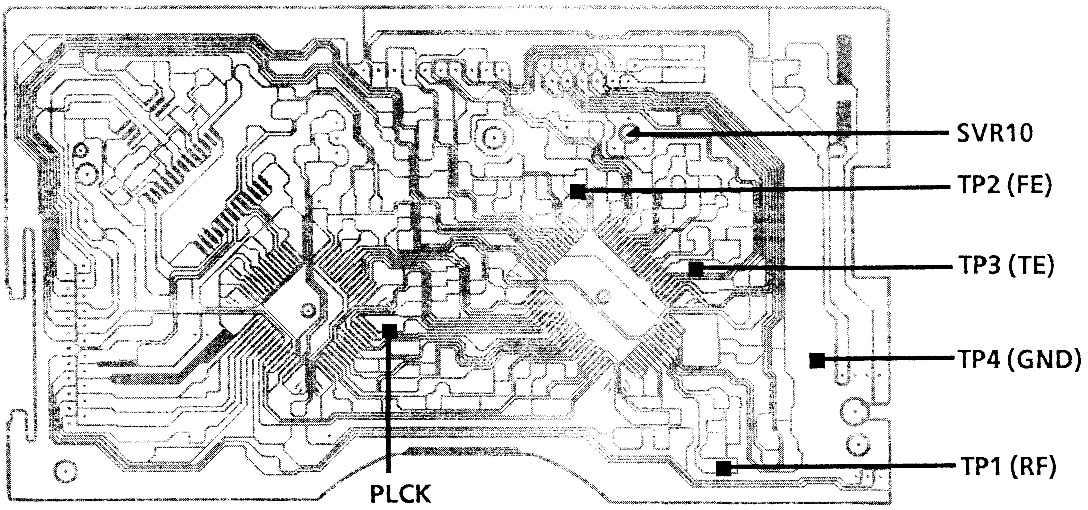
Notes : a. The adjustments can be using the equipment produced by other manufactures provided that the performance of that equipment corresponds to that of the above listed models.
 b. Use a 10 : 1 probe for observing signals on the oscilloscope and storage scope.
 c. Test disc is subject change without notice.

1. Initial set

Set the SVR10 at its initial position of adjustment controls as shown in figure below.



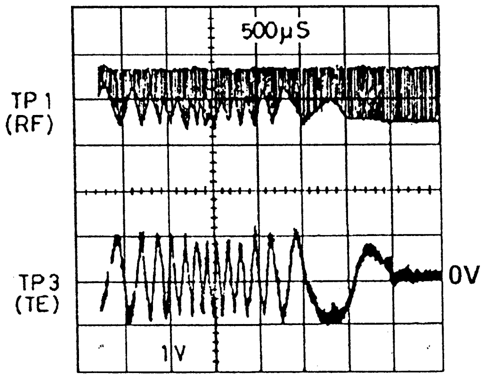
SVR10 INITIAL SET (MECHANICAL SENTER)



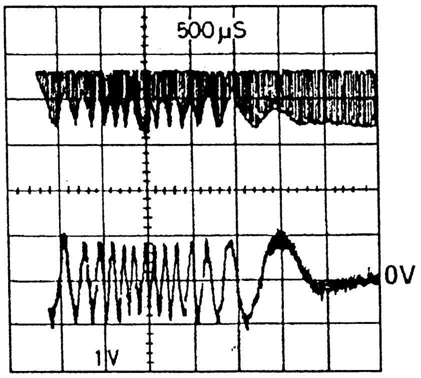
2. Tracking Balance Adjustment (SVR10)

1. Connect the oscilloscope to TP3 (TE) and TP4 (GND.).
2. Turn on the power of the unit. Insert test disc.
3. Play-back the test disc.
4. Continuously press the forward search ▸▸ or backward-search ▸▸ button to do it
5. Adjust SVR10 so that the TE (Tracking Error) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. (See figure right side)

*If the adjustment is imperfect, become run away the sled motor (pick-up sending motor), inferior playability.

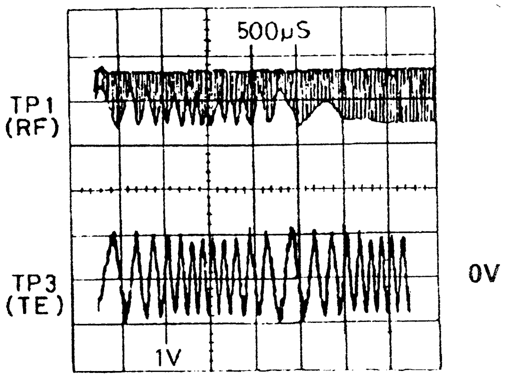


◀◀SEARCH



SEARCH▶▶

2. Other Adjustment of Tracking Balance (SVR10)

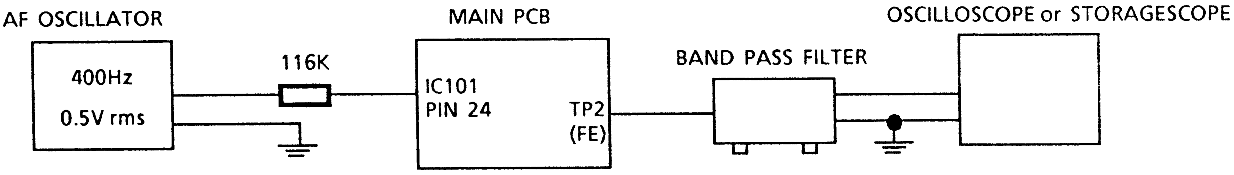


1. Set the service mode (CD tracking balance adjusting mode).
   - Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state. Pressing the PLAY / Pause key in this state turns on the tracking servo and causes playing to begin. (See service mode)
2. Connect the oscilloscope to TP3 (TE) and TP4 (GND).
3. Adjust SVR10 so that the TE (Traverse) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. Or may adjust SVR10 so that the DC voltage : (Peak Hold Level) - (Bottom Hold Level) of the traverse signal is 0V. (See figure right side)
4. If it were not for obtain waveform at the right figure, repeat item 2-1 ~2-3.

3. Focus Gain Confirmation

1. Connect the storage scope to TP2 (F.E : Focus Error) through the Band pass filter. (See BPF Figure)
2. Turn on the power of the unit.
3. Play-back the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 24 (IC101) through the resistor : 116k ohms.
5. Confirm so that the voltage of the F.E signal waveform on the storage scope is 0.5V p-p, ±3db by through BPF.

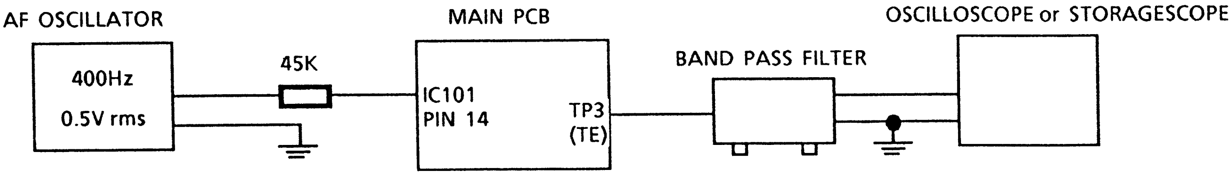
*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
116K
MAIN PCB
IC101
PIN 24
TP2
(FE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

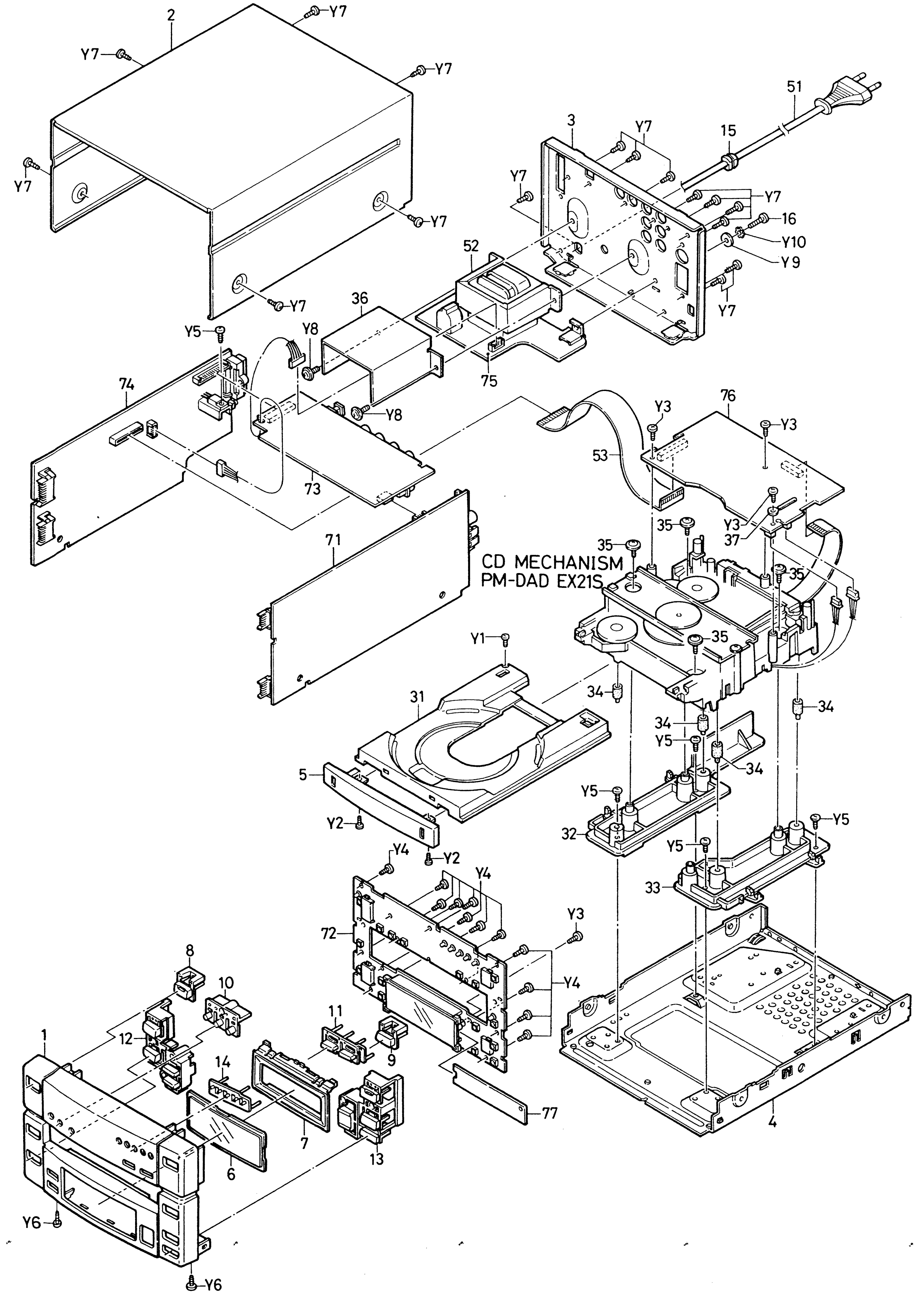
4. Tracking Gain Confirmation

1. Connect the storage scope to TP3 (T.E) through the Band pass filter. (See BPF Figure).
2. Turn on the power of the unit.
3. playback the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 14 (IC101) through resistor 45k ohms.
5. Confirm so that the voltage of T.E signal waveform on the storage scope is 0.5V p-p, ±3db by through BPF.

*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
45K
MAIN PCB
IC101
PIN 14
TP3
(TE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

EXPLODED VIEW (TUNER & CD UNIT)



2
Y7
Y7
Y7
Y7
Y7
Y7
51
3
Y7
15
Y7
Y7
Y7
16
Y10
Y9
Y7
52
36
Y5
Y8
Y8
75
74
73
76
Y3
Y3
53
Y3
37
35
35
CD MECHANISM
PM-DAD EX21S
35
35
71
Y1
34
34
34
34
31
Y5
5
Y5
Y5
Y2
Y2
32
Y5
Y4
Y4
33
Y3
72
Y4
8
10
12
11
9
1
14
7
13
6
77
4
Y6
Y6

ARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not list. To know those values, refer to the schematic diagram.

N.S.P : Not avairable as service parts.

ABINET

Ref. No.	Part No.	Description
1	614 241 8871	ASSY,PANEL,FRONT
2	614 238 7597	CABINET,TOP
3	614 241 8949	ASSY,PANEL,REAR
4	614 238 7603	CABINET,BOTTOM
5	614 238 7627	ESCUTCHEON,CD TRAY
6	614 238 7696	WINDOW,LCD
7	614 238 7634	ESCUTCHEON,LCD WINDOW
8	614 238 7566	ASSY,BUTTON,POWER(STAND BY)
9	614 238 7849	BUTTON,FUNCTION
10	614 238 7818	BUTTON,CLOCK+TIMER+WAKE UP
11	614 238 7856	BUTTON,CLEAR+MEMORY
12	614 238 7788	BUTTON,BAND+C.REC+TIME+EDIT
13	614 238 7559	ASSY,BUTTON,OPEN/CLOSE ETC.
14	614 238 7702	WINDOW,FUNCTION LED
15	⚠ 614 129 1901	FIXER,AC CORD
16	412 003 2804	SPECIAL SCREW,PHONO GND.

HASSIS

Ref. No.	Part No.	Description
31	614 224 2124	TABLE,LOADING,CD TRAY
32	614 238 7931	MOUNT-M,CD MECHA(L)
33	614 238 7948	MOUNT-M,CD MECHA(R)
34	614 195 6978	CUSHION,RUBBER,MECHA FLOAT
35	412 003 1708	SCREW,SPECIAL,MECHA FIX
36	614 238 8006	SHIELD,POWER TRANS
37	614 129 9136	LUG,LEAD FIX
	614 232 0464	LABEL,SAFETY,LASER
	614 191 3698	LABEL,PICKUP,LASER
	614 129 4971	FIXER,LEAD RETAINER

IXING PARTS

Ref. No.	Part No.	Description
Y01	411 022 8408	SCR S-TPG PAN 2X8
Y02	411 021 1202	SCR S-TPG BIN 2X8
Y03	411 021 3107	SCR S-TPG BIN 2.6X8
Y04	411 099 2606	SCR S-TPG BIN 2.6X12
Y05	411 021 5705	SCR S-TPG BIN 3X6
Y06	411 021 6405	SCR S-TPG BIN 3X8
Y07	411 021 6603	SCR S-TPG BIN 3X8
Y08	411 001 3905	SCR S-TPG BIN 4X6
Y09	411 105 9704	WASHER Z 3X10X1
Y10	411 008 0402	WASHER OUT TW 3

ELECTRICAL PARTS

Ref. No.	Part No.	Description
51	⚠ 614 023 3100	POWER CORD,AC IN
or	⚠ 614 023 0493	POWER CORD,AC IN
or	⚠ 614 023 3148	POWER CORD,AC IN
or	⚠ 614 023 3384	POWER CORD,AC IN
52	⚠ 614 241 9458	POWER TRANS,CT(T1001)
53	614 239 6216	CORD,22P,FLEXIBLE FILM

TUNER P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 241 8116	ASSY,PCB,TUNER
	614 210 4675	FILTER,PAIR,CF204·205,AM
C2304	403 080 5000	POLYPRO 1000P J 100V
C2458	403 106 1603	NP-ELECT 1U Q 50V
CF201	614 240 2917	FILTER,10.7MHZ,FM
CF202	614 240 2917	FILTER,10.7MHZ,FM
CF204	614 211 2939	FILTER,459KHZ,AM
CF205	614 030 7443	FILTER,CERAMIC,459KHZ,AM
CN201	614 210 2688	TERMINAL,2P+DIN,EXT-ANT
CN202	614 225 9887	PLUG,4P,TO FUNCTION PCB
CN203	614 226 9985	SOCKET,6P(B TO B),TO FRONT PCB
CN204	614 226 9985	SOCKET,6P(B TO B),TO FRONT PCB
CN205	614 239 1839	TERMINAL,PCB FIX
D2201	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2301	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2302	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
IC201	409 195 3108	IC LA1265-AUD
IC202	409 016 9500	IC LA3361
IC203	409 066 7600	IC LM7001
L2150	614 241 1162	TUNER,RF,AM
L2451	614 028 4256	FILTER,100UH,CHOKE
Q2104	405 017 9709	TR 2SC3330-U
Q2105	405 016 5900	TR 2SC2999-E-SPA
Q2201	405 016 0806	TR 2SC2839-E
Q2202	405 017 9709	TR 2SC3330-U
Q2203	405 004 4601	TR 2SA608-F-SPA
or	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
Q2301	405 000 6104	TR DTC144ES
Q2302	405 000 0904	TR DTA114YS
Q2351	405 000 0904	TR DTA114YS
Q2451	405 010 9607	TR 2SC1571-F-NP
Q2452	405 010 9607	TR 2SC1571-F-NP
Q2701	405 017 9709	TR 2SC3330-U
Q2702	405 021 0600	TR 2SD1012-G-SPA
Q2801	405 017 9709	TR 2SC3330-U
Q2802	405 021 0600	TR 2SD1012-G-SPA
Q2901	405 017 9709	TR 2SC3330-U
Q2902	405 004 4601	TR 2SA608-F-SPA
or	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
Q2903	405 000 6104	TR DTC144ES
R2465	401 018 1209	CARBON 33 J B 1/4W
SVR23	614 203 6594	SEMI-FIXED V.R,10K OHM(B)
T2202	614 030 4114	I.F.T,10.7MHZ,FM
T2203	614 029 3906	MX COIL
T2701	614 027 7845	CHOKE COIL
T2801	614 027 7845	CHOKE COIL

PARTS LIST

Ref. No.	Part No.	Description
TU201	620 208 3087	TUNER,RF-END,FM
X2451	614 229 2457	CRYSTAL,7.2MHZ

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 241 8123	ASSY,PCB,FRONT
	614 238 8020	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
CN251	614 226 9930	PLUG,6P(B TO B),TO TUNER PCB
CN252	614 226 9930	PLUG,6P(B TO B),TO TUNER PCB
CN253	614 226 9954	PLUG,8P(B TO B),TO CD MICON PCB
CN254	614 226 9978	PLUG,10P(B TO B),TO CD MICON PCB
D2501	408 016 2306	LED SLR-40VC70F095,STAND-BY
or	408 016 2405	LED SLR-40VC70F095-P, STAND-BY
D2502	408 016 2306	LED SLR-40VC70F095, OPEN/CLOSE
or	408 016 2405	LED SLR-40VC70F095-P, OPEN/CLOSE
D2503	408 016 2306	LED SLR-40VC70F095,TAPE
or	408 016 2405	LED SLR-40VC70F095-P,TAPE
D2504	408 016 2306	LED SLR-40VC70F095,TUNER
or	408 016 2405	LED SLR-40VC70F095-P,TUNER
D2505	408 016 2306	LED SLR-40VC70F095,CD
or	408 016 2405	LED SLR-40VC70F095-P,CD
D2506	408 016 2702	LED SLR-40MC70F095-P,AV
or	408 016 2801	LED SLR-40MC70F095-Q,AV
D2507	408 016 2702	LED SLR-40MC70F095-P,PHONO
or	408 016 2801	LED SLR-40MC70F095-Q,PHONO
D2511	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D2512	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
IC251	410 146 1203	IC UPD75306GF-225-3B9
IC252	409 208 0308	IC MC74HC138AN
LCD21	614 238 0284	LCD(LIQUID CRYSTAL DISPLAY)
S2501	614 220 5556	SWITCH,TACT,POWER
S2502	614 220 5556	SWITCH,TACT,FUNCTION
S2503	614 220 5556	SWITCH,TACT,OPEN
S2504	614 220 5556	SWITCH,TACT,PLAY
S2505	614 220 5556	SWITCH,TACT,STOP
S2506	614 220 5556	SWITCH,TACT,C.REC
S2507	614 220 5556	SWITCH.TACT,EDIT
S2508	614 220 5556	SWITCH,TACT.TIME/FADE
S2509	614 220 5556	SWITCH,TACT,CLOCK
S2510	614 220 5556	SWITCH,TACT,WAKE UP
S2511	614 220 5556	SWITCH.TACT,TIMER
S2512	614 220 5556	SWITCH,TACT,BAND
S2513	614 220 5556	SWITCH,TACT,CLEAR
S2514	614 220 5556	SWITCH,TACT,MONO
S2515	614 220 5556	SWITCH,TACT,UP(FWD)
S2516	614 220 5556	SWITCH,TACT,DOWN(BACK)
X2501	614 215 5561	RESONATOR,CERAMMIC,4.19MHZ

FUNCTION SELECTOR P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 241 8130	ASSY,PCB,FUNCTION
CN261	614 239 1587	JACK,3P(RCA TYPE),RIGHT
CN262	614 239 1594	JACK,3P(RCA TYPE),LEFT
CN263	614 229 9685	SOCKET,2P(RCA TYPE),VIDEO·MONITOR
CN265	614 226 0012	SOCKET,4P(B TO B),TO TUNER PCB
CN266	614 226 0128	SOCKET,15P(B TO B),TO CD MICON PCB
CN267	614 240 5703	CONNECTOR,OPTICAL,DIGITAL OUT
D2601	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D2602	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D2604	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D2605	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
IC261	409 132 3505	IC MC14051BCP
IC262	409 132 3505	IC MC14051BCP
IC263	409 030 5700	IC MC14052BCP
IC264	409 238 6806	IC RC4558S-D
or	409 039 8207	IC NJM4558SD
IC265	409 238 6806	IC RC4558S-D
or	409 039 8207	IC NJM4558SD
Q2601	405 017 9709	TR 2SC3330-U
Q2602	405 017 9709	TR 2SC3330-U
Q2604	405 017 9709	TR 2SC3330-U
Q2605	405 000 0904	TR DTA114YS
Q2606	405 000 6104	TR DTC144ES
Q2607	405 000 6104	TR DTC144ES
Q2608	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
Q2609	405 000 6104	TR DTC144ES
Q2610	405 000 6104	TR DTC144ES

CD MICON P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 241 8147	ASSY,PCB,CD MICON
C1301	403 196 9602	DL-ELECT 0.047F Z 5.5V
C1608	403 043 3104	ELECT 2200U M 16V
C1609	403 042 6205	ELECT 1000U M 16V
C1654	403 046 0605	ELECT 2200U M 25V
CN101	614 225 9993	PLUG,15P,TO DECK/AMP. UNIT
CN102	614 227 2978	SOCKET,15P(B TO B),TO FUNCTION PCB
CN103	614 227 0011	SOCKET,10P(B TO B),TO FRONT PCB
CN104	614 226 9992	SOCKET,8P(B TO B),TO FRONT PCB
CN105	614 017 2560	PLUG,5P,TO P.T PCB
CN106	614 241 6143	SOCKET,22P,TO CD MAIN PCB
D1301	407 005 4505	DIODE DS442X
D1302	407 051 5907	ZENER DIODE GZS3.9Z
D1303	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1304	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1305	407 053 6704	ZENER DIODE MTZ5.6B
D1306	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1307	407 053 7503	ZENER DIODE MTZ6.8A
D1601	⚠ 407 005 2006	DIODE DS135D-KB1
or	⚠ 407 007 9307	DIODE 1SR35-200A-HP
D1602	⚠ 407 005 2006	DIODE DS135D-KB1
or	⚠ 407 007 9307	DIODE 1SR35-200A-HP
D1603	⚠ 407 005 2006	DIODE DS135D-KB1
or	⚠ 407 007 9307	DIODE 1SR35-200A-HP
D1604	⚠ 407 005 2006	DIODE DS135D-KB1
or	⚠ 407 007 9307	DIODE 1SR35-200A-HP
D1651	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1652	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1653	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1654	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
IC131	410 146 1104	IC UPD75116GF-F56-3BE
IC132	409 018 5500	IC LA6510
IC133	409 140 0503	IC NJM78M12FA
L1301	614 028 4256	FILTER,100UH,CHOKE
LUG10	614 217 7266	LUG,EARTH
Q1301	405 004 4601	TR 2SA608-F-SPA
or	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
Q1302	405 017 9709	TR 2SC3330-U
Q1303	405 075 7600	TR DTA114TS
Q1304	405 000 3400	TR DTC114TS
Q1305	405 004 4601	TR 2SA608-F-SPA
or	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
Q1306	405 004 4601	TR 2SA608-F-SPA
or	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
Q1500	405 021 0600	TR 2SD1012-G-SPA
or	405 033 6805	TR 2SD1468S-S
Q1501	405 021 0600	TR 2SD1012-G-SPA
or	405 033 6805	TR 2SD1468S-S
Q1601	405 017 9709	TR 2SC3330-U
Q1604	405 007 6701	TR 2SB598-F-NP
Q1605	405 018 2600	TR 2SC3400
or	405 000 4407	TR DTC124ES
S1301	614 221 8327	SWITCH,TACT,MEMORY RESET
X1301	614 229 3300	RESONATOR,XTAL,4.19MHZ

PARTS LIST

POWER TRANSFORMER P.C.BOARD ASSY

Ref. No.	Part No.	Description
75	⚠ 614 241 8154	ASSY,PCB,P.T
	614 246 0184	ASSY,CONNECTOR-S,5P,TO CD MICON PCB
	614 123 1921	TERMINAL,PHONO GND
CN107	614 017 2560	PLUG,5P,TO CD MICON PCB
ICP10	⚠ 614 205 2914	IC PROTECTOR ICP-N25
ICP11	⚠ 614 205 2914	IC PROTECTOR ICP-N25
ICP12	⚠ 614 205 2914	IC PROTECTOR ICP-N25
L1001	⚠ 614 229 0408	INDICATOR,FERITE
R1801	⚠ 614 044 1607	RESISTOR 0.33 J- 1/2W
R1802	⚠ 614 044 1607	RESISTOR 0.33 J- 1/2W
R1803	⚠ 614 044 1607	RESISTOR 0.33 J- 1/2W
TH101	⚠ 614 123 2089	TERMINAL,AC-IN
TH102	⚠ 614 123 2089	TERMINAL,AC-IN

CD MAIN P.C.BOARD ASSY

Ref. No.	Part No.	Description
76	614 241 8161	ASSY,PCB,CD MAIN
CN101	614 241 6143	SOCKET,13P,TO PICKUP
CN102	614 017 2553	PLUG,4P,TO MECHANISM MOTORS
CN103	614 017 2546	PLUG,3P,TO MECHANISM SWITCHES
CN104	614 035 1972	SOCKET,22P,TO CD MICON PCB
IC101	409 245 4802	IC LA9210M
IC102	409 247 0000	IC LA6524
IC104	409 248 8708	IC LC7866E
IC105	409 278 0109	IC SM5870DS
IC106	409 241 5506	IC XRA15218F
or	409 192 7109	IC BA15218F
Q101	405 002 0308	TR 2SA1037K-R
Q102	405 014 4509	TR 2SC2412K-R
Q103	405 014 4509	TR 2SC2412K-R
SVR10	614 203 6594	SEMI V.R, T.BAL
TP101	614 227 6839	TERMINAL,TEST POINT
TP102	614 227 6839	TERMINAL,TEST POINT
TP103	614 227 6839	TERMINAL,TEST POINT
TP104	614 227 6839	TERMINAL,TEST POINT
TP105	614 227 6839	TERMINAL,TEST POINT
X101	614 243 2204	RESONATOR,XTAL,16.93MHZ

LED(LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
77	614 239 0870	ASSY,PCB,LEC
CN401	614 229 0279	ASSY,CONNECTOR-P,2P,TP FRONT PCB
D4001	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4002	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4003	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4004	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4005	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4006	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4007	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4008	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4009	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4010	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4011	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4012	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4013	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4014	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4015	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E

PARTS LIST

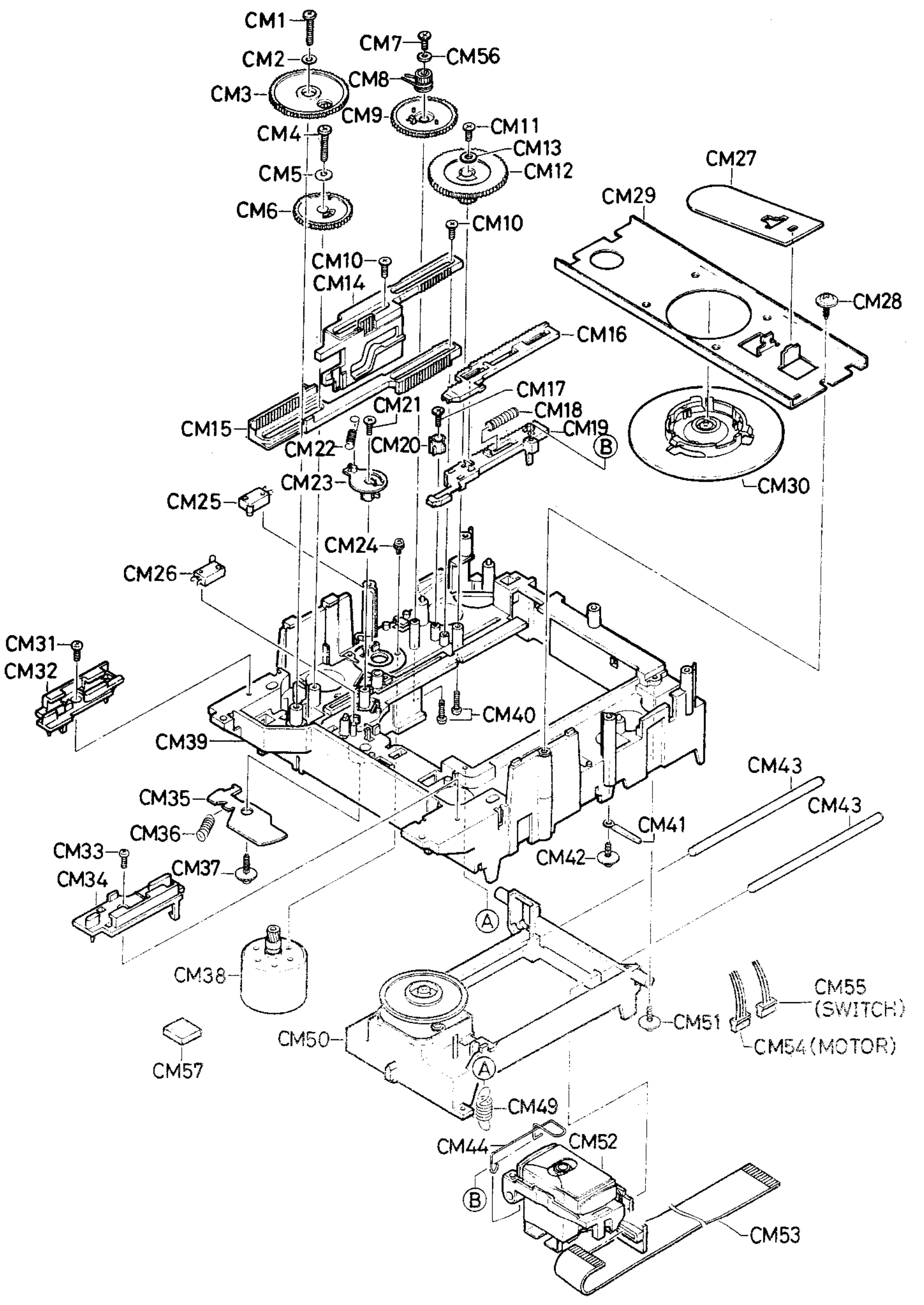
Ref. No.	Part No.	Description
D4016	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4017	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4018	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4019	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4020	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E

PARTS LIST (CD MECHANISM)

CD MECHANISM (PM-DAD EX21S)

Ref. No.	Part No.	Description
CM01	411 119 8908	SCR S-TPG PAN 2X14,GEAR FIX
CM02	411 087 4704	WASHER V 2X6X0.4,GEAR FIX
CM03	614 224 2056	GEAR TRAY MOVE
CM04	411 119 8908	SCR S-TPG PAN 2X14,GEAR FIX
CM05	411 087 4704	WASHER V 2X6X0.4,GEAR FIX
CM06	614 224 2049	GEAR,TRAY
CM07	411 152 4301	SCR S-TPG PAN PCS 1.7X6, GEAR FIX
CM08	614 237 9172	ASSY,GEAR,CLUTCH INNER
CM09	614 238 4794	GEAR,CLUTCH OUTER
or	614 243 6455	GEAR,CLUTCH OUTER
CM10	412 031 2104	SPECIAL SCREW,SLIDE FIX
CM11	411 152 4301	SCR S-TPG PAN PCS 1.7X6, GEAR FIX
CM12	614 224 1998	GEAR,PICK SLED
CM13	412 045 4101	SPECIAL WASHER,PICK GEAR
CM14	614 233 6311	SLIDE,BASE UP/DOWN
CM15	614 224 2094	SLIDE,TRAY
CM16	614 224 2018	GEAR,PICK RACK UPPER
CM17	412 031 2104	SPECIAL SCREW,GEAR FIX
CM18	614 225 0884	SPRING,COMP,RACK BACK
CM19	614 224 2001	GEAR,PICK RACK LOWER
CM20	614 224 2032	GEAR,BASE/TRAY TIMING
CM21	412 031 2104	SPECIAL SCREW,GEAR FIX
CM22	614 242 8665	SPRING,TENS,GEAR TENSION
CM23	614 237 8304	GEAR,TIMING
CM24	411 044 7205	SCR PAN+SW 2X4,SLED MOTOR
CM25	614 018 9223	SWITCH,LIMIT
CM26	614 018 9223	SWITCH,TRAY OPEN
CM27	614 202 5277	SPRING PLATE,CHUCKING
CM28	411 020 9803	SCR S-TPG BRZ+FLG 3X6, CHUCK BRACKET
CM29	614 224 1967	BRACKET-M,CHUCKING
CM30	614 243 2594	ASSY,PULLEY
CM31	411 022 7807	SCR S-TPG PAN 2X6,BRACKET
CM32	614 224 3176	BRACKET-M,TRAY GUIDE(L)
CM33	411 022 7807	SCR S-TPG PAN 2X6,BRACKET
CM34	614 224 3183	BRACKET-M,TRAY GUIDE(R)
CM35	614 233 6304	LEVER,BASE
CM36	614 226 5536	SPRING,COMP,BASE LEVER MOVE
CM37	411 020 9902	SCR S-TPG BRZ+FLG 3X8,LEVER
CM38	614 225 4820	ASSY,MOTOR,LOADING/SLED
CM39	614 228 5855	CHASSIS,LOADING CHASSIS
or	614 242 8641	CHASSIS,LOADING CHASSIS
CM40	412 031 2104	SPECIAL SCREW,REINFORCEMENT
CM41	614 129 9136	LUG,WIRE DRESS
CM42	411 021 5705	SCR S-TPG BIN 3X6,LUG FIX
CM43	614 145 9622	SHAFT,PICK RAIL
or	614 227 6204	SHAFT,PICK RAIL
or	614 230 0411	SHAFT,PICK RAIL
CM44	614 229 4529	SPRING,WIRE,PICK BACK
CM49	614 228 5084	SPRING,TENS,BASE CHASSIS PULL UP
CM50	614 247 1950	ASSY,CHASSIS,BASE CHASSIS, WITH SPINDOLE MOTOR + TURN-TABLE,SERVICE ONLY
CM51	411 020 9803	SCR S-TPG BRZ+FLG 3X6,BASE CHASSIS FIX
CM52	614 239 1303	PICKUP,LASER,PLASTIC (SF-P1PS)
or	614 231 6047	PICKUP,LASER,ALMINUM (SF-90PS)
CM53	614 240 7332	CORD,13P,PICK UP
CM54	614 240 6977	ASSY,CONNECTOR-S,4P,SPINDLE/SLED MOTOR
CM55	614 240 6984	ASSY,CONNECTOR-S,3P,LIMIT/TRAY OPEN SWITCH
CM56	412 014 2800	SPECIAL WASHER,GEAR FIX
CM57	614 125 6528	CUSHION,MOTOR LEAD FIX

EXPLODED VIEW (CD MECHANISM)

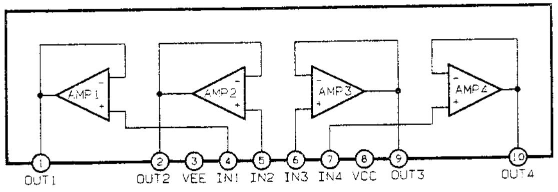


IC BLOCK DIAGRAM (CD)

IC101 LA9210M (Servo Signal Processor)

No.	PIN NAME	I/O	FUNCTION
1	NC		Non Connection
2	VEE		-5V
3	E	I	IV Convert Input (from Photo Diode E)
4	F	I	IV Convert Input (from Photo diode F)
5	FN	I	IV Converter Input
6	FO	O	IV Converter Output
7	TEAO	O	Tracking Error Amplifier Output
8	VREF2	I	Reference Voltage 2
9	VREF3	I	Reference Voltage 3
10	TES1	I	Test Input
11	ATSC	I	+ Input of Anti Shock Detect Amplifier
12	ATSC-	I	- Input of Anti Shock Detect Amplifier
13	TPA+	I	- Input of Tracking Pulse Amplifier
14	TPA-	I	+ Input of Tracking Pulse Amplifier
15	TPAO	O	Tracking Pulse Amplifier Output
16	TOFS	I	Input for Tracking Offset
17	THDS	I	Tracking Servo Hold Switch
18	TD+	I	Add the Track Jump Pulse
19	JPO	O	Track Jump Pulse Amplifier Output
20	SLEQ	I	Input for Sled Servo Equalizer
21	TDO	O	Tracking Actuator Coil Driver Output
22	FDO	O	Focus Actuator Coil Driver Output
23	FD-	I	Input for Focus Actuator Coil Driver
24	FSW	I	Focus Servo Switch
25	NC		Non Connection
26	FEAO	O	Focus Error Amplifier Output
27	FE+	I	+ Input of Focus Error Amplifier
28	FD+	I	+ Input of Focus Actuator Coil Driver
29	SPO	O	CLV Error Amplifier Output
30	SPO-	I	Input for Spindle Motor Driver
31	SPDO	O	Spindle Motor Driver Output
32	VEE		-5V
33	SLDO	O	Sled Motor Driver Output
34	SL-	I	- Input of Sled Motor Driver
35	SL+	I	+ Input of Sled Motor Driver
36	VCC		+5V
37	SLSW	I	Sled Servo Switch
38	DEFO	O	Defect Signal Output
39	2FREQ	I	Input for VCO
40	DRF	O	Focusing Servo ON : High Level
41	NC		Non Connection
42	JP-	I	- Input of Track Jump Pulse Amplifier
43	JP+	I	+ Input of Track Jump Pulse Amplifier
44	THLD	I	Hold of Output Voltage of Tracking Servo
45	TGL	I	Tracking Gain Low
46	TOFF	I	Input For Off the Tracking Servo
47	TES	O	Tracking Error Signal
48	HFL	O	Detect Track Signal
49	FZD	O	Detect S Carve of Focus Error Signal
50	FOCS	I	Input For Off the Focus Servo
51	CLV-	I	- Input of CLV Error Amplifier
52	CLV+	I	+ Input of CLV Error Amplifier
53	SLCO	O	Slice Level Control Amplifier Output
54	$\overline{\mathrm{EFMO}}$	I	$\overline{\mathrm{EFMO}}$ (RF) Signal
55	AI	I	EFMO (RF) Signal
56	VDD		+5V
57	PDO	I	+ Input of VCO Control Amplifier
58	PDO-	I	- Input of VCO Control Amplifier
59	VCOC	I	VCO Control Amplifier Output
60	VCOO	O	VCO Output
61	LF1	I	Input of Low Pass Filter
62	CLK	I	Clock
63	LASER	I	Laser Control Signal
64	66/60	I	Select of DSP LC7866/LC7860
65	NC		Non Connection
66	DF2	I	Input for Defect Pulse width Control
67	DF1	I	Input for Defect Pulse width Control
68	PH3	O	Defect Detect Timing
69	BH	I	Track Detect Timing
70	PH	I	Focus Detect Timing
71	GND		Ground
72	RF SUM	O	RF SUM Amplifier Output
73	RFS-	O	IV Converter Output
74	LDO	O	Laser Diode ON
75	LDS	I	Input of Auto Laser Power Control
76	LDC	I	Input of Auto Laser Power Control
77	VDD		+5V
78	FIN1	I	IV Convert Input (From Photo Diode A+C)
79	FIN2	I	IV Convert Input (From Photo Diode B+D)
80	VREF1	I	Reference Voltage 1

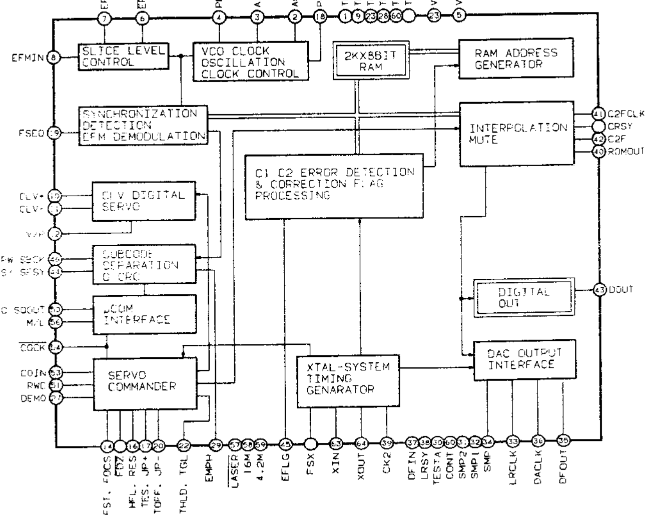
IC102 LA6524 (Dual Motor & Actuator Coil Driver)

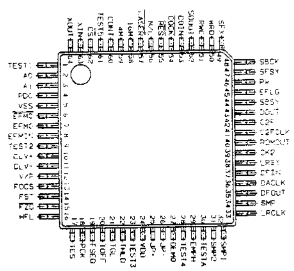

AMP 1
AMP 2
AMP 3
AMP 4
1
2
3
4
5
6
7
8
9
10
OUT1
OUT2
VEE
IN1
IN2
IN3
IN4
VCC
OUT3
OUT4

IC BLOCK DIAGRAM (CD)

IC104 LC7866E (Digital Signal Processor)

No	PIN NAME	I/O	DESCRIPTION
1	TEST1	I	For TEST. Normal time is non connection.
2	AO	O	Input from VCO output in LA9210 .(8.6436MHz) Phase comparison output of VCO and EFM signal.
3	AI	I	
4	PDO	O	
5	VSS		GND
6	$\overline{\mathrm{EFMO}}$	O	Negative output through amplitude limiter. Antiphase of $\overline{\mathrm{EFMO}}$. This signal use SLICE LEVEL CONTROL.
7	EFMO	O	Positive output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
8	EFMIN	I	Inputting HF signal of 1~2$V_{p.p}$. This signal use SLICE LEVEL CONTROL.
9	TEST2	I	For TEST. Normal time is non connection.
10	CLV+	O	Output for DISC MOTOR CONTROL.
11	CLV-	O	Output for DISC MOTOR CONTROL.
12	V/P	O	CLV rough Servo time : Output "H" Phase control time : Output"L"
13	FOCS	O	Output "H" : Lens pull up with slowly than stop the Focus Servo. If $\overline{\mathrm{FZD}}$ generate, it reset output of FOCS. For lead-in of Focus
14	FST	O	
15	$\overline{\mathrm{FZD}}$	I	
16	HFL	I	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
17	TES	I	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
18	PCK	O	PCK Monitor (4.3218MHz)
19	FSEQ	O	SYNC (FS of truth) detected from EFM signal = SYNC of counter : "H" (Latch Output during in 1 frame)
20	TOFF	O	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
21	TGL	O	
22	THLD	O	
23	TEST3	I	For TEST. Normal time is non connection.
24	VDD		+5V
25	JP+	O	Comply with command of track jump, it oscillate kick Pulse, JP+ & JP-. It jump the prescribed number of track (1,4,16,64).
26	JP-	O	
27	DEMO	I	For adjustment of production process. Sound on function.
28	TEST4	I	For TEST. Normal time is non connection.
29	EMPH	O	Output is "H" time, it need de-emphasis
30	TESTA	I	For TEST. Normal time is "H".
31	SMP2	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
32	SMP1	O	
33	LRCLK	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
34	SMP	O	
35	DFOUT	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
36	DACLK	O	Output of signal to DAC, Signal of Latch & L/R select, Signal for Sampling Hold
37	TESTB	O	For TEST. Normal time is non connection.
38	TESTC	O	For TEST. Normal time is non connection.
39	CK2	O	For output of signal that Comply with CD-ROM
40	ROMOUT	O	For output of signal that Comply with CD-ROM
41	C2FLCK	O	For output of signal that Comply with CD-ROM
42	C2F	O	For output of signal that Comply with CD-ROM
43	DOUT	O	Output of DIGITAL OUT
44	SBSY	O	Synchronizing signal of sub-code block.
45	EFLG	O	For correction monitor of C1, C2, single, double.
46	PW	O	SFSY is Synchronizing signal of sub-code & frame. Clock of eighth send to SBCK then read out the sub-code of P, Q, R, S, T, U, V, & W.
47	SFSY	O	
48	SBCK	I	
49	FSX	O	Output of Synchronizing signal (7.35KHz)
50	WRQ	O	Data sub-code Q pass the CRC check then WRQ do "H". It detect at external, Data read out from SQOUT by send the $\overline{\mathrm{CQCK}}$. RWC set the "H" by Micro Processor then it let command by send with Synchronizing $\overline{\mathrm{CQCK}}$ command data.
51	RWC	I	
52	SQOUT	O	
53	COIN	I	
54	$\overline{\mathrm{CQCK}}$	I	
55	RES	I	Turn on the Power Supply time : Once "L"
56	M/L	I	Data of SQOUT want at the LBS first time : M/L set the "L".
57	$\overline{\mathrm{LASER}}$	O	This output can control at Serial Control from Micro Processor
58	16M	O	16M Output (16.9344MHz)
59	4M	O	4M Output (4.2336MHz)
60	CONT	O	This output can control at Serial Control from Micro Processor
61	TEST5	I	For TEST. Normal time is non connection.
62	CS	I	Chip select Terminal. This terminal "L" : LC7866 is active (Internal Resistor : Pull Down)
63	XIN	I	Connection Terminal of crystal oscillation (16.9344MHz)
64	XOUT	O	Connection Terminal of crystal oscillation (16.9344MHz)


EFMO
$\overline{\mathrm{EFMO}}$
PDO
AI
AO
PCK
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6
VDD
VSS
EFMIN
SLICE LEVEL CONTROL
VCO CLOCK OSCILLATION CLOCK CONTROL
2KX8BIT RAM
RAM ADDRESS GENERATOR
FSEQ
SYNCHRONIZATION DETECTION EFM DEMODULATION
INTERPOLATION MUTE
C2FCLK
CRSY
C2F
ROMOUT
C1 C2 ERROR DETECTION & CORRECTION FLAG PROCESSING
CLV+
CLV-
V/P
CLV DIGITAL SERVO
PW SBCK
SBSY SFSY
SUBCODE SEPARATION Q CRC
WRQ SQOUT
M/L
μCOM INTERFACE
$\overline{\mathrm{CQCK}}$
COIN
RWC
DEMO
SERVO COMMANDER
DIGITAL OUT
DOUT
XTAL-SYSTEM TIMING GENARATOR
DAC OUTPUT INTERFACE
FST, FOCS
$\overline{\mathrm{FDZ}}$
HFL, RES
TES, JP+
TOFF, JP-
THLD, TGL
EMPH
$\overline{\mathrm{LASER}}$
16M
4.2M
EFLG
FSX
XIN
XOUT
CK2
DFIN
LRSY
TESTA
CONT
SMP2
SMP1
SMP
LRCLK
DACLK
DFOUT

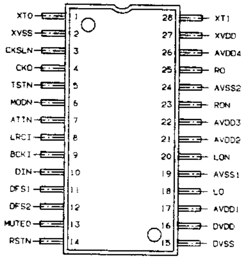


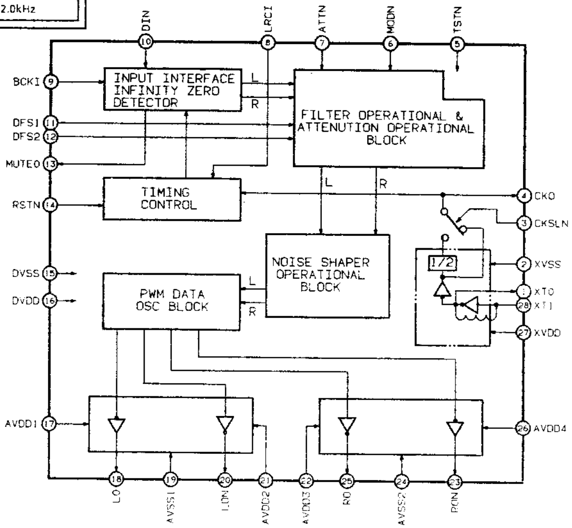
IC BLOCK DIAGRAM (CD)

IÇ105 SM5870DS (D / A Converter)

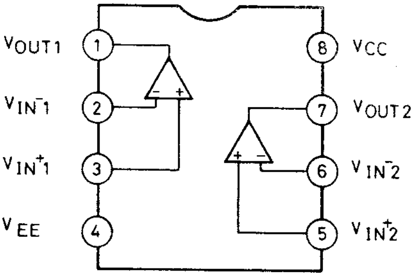
<table>
<tr><th>No.</th><th>PIN NAME</th><th>I / O</th><th>FUNCTION</th></tr>
<tr><td>1</td><td>XTO</td><td>O</td><td>Output Terminal of Oscillation</td></tr>
<tr><td>2</td><td>XVSS</td><td></td><td>GND Terminal of Crystal Route (0V)</td></tr>
<tr><td>3</td><td>CKSLN</td><td>I</td><td>Frequency Select of XTI, CKO</td></tr>
<tr><td>4</td><td>CKO</td><td>O</td><td>Oscillation Part, Output of Clock</td></tr>
<tr><td>5</td><td>TSTN</td><td>I</td><td>Test Terminal H = Normal, L = Test Mode</td></tr>
<tr><td>6</td><td>NODN</td><td>I</td><td rowspan="2"><table>
<tr><td rowspan="2">ATTN</td><td rowspan="2"></td><td colspan="2">MODN</td></tr>
<tr><td>H</td><td>L</td></tr>
<tr><td></td><td>H</td><td>Release</td><td rowspan="2">Soft Mute
Hold</td></tr>
<tr><td></td><td>L</td><td>Soft Mute</td></tr>
</table></td></tr>
<tr><td>7</td><td>ATTN</td><td>I</td></tr>
<tr><td>8</td><td>LRCI</td><td>I</td><td>Sample rate (fs) Clock of Input Data
H = L-ch L = R-ch</td></tr>
<tr><td>10</td><td>DIN</td><td>I</td><td>Bit Clock of Input Data</td></tr>
<tr><td>11</td><td>DFS1</td><td>I</td><td rowspan="2"><table>
<tr><td rowspan="2">DSF2</td><td rowspan="2"></td><td colspan="2">DSF1</td></tr>
<tr><td>L</td><td>H</td></tr>
<tr><td></td><td>L</td><td>De-Emphasis On 44.1kHz</td><td>De-Emphasis Off</td></tr>
<tr><td></td><td>H</td><td>De-Emphasis On 48.0kHz</td><td>De-Emphasis On 32.0kHz</td></tr>
</table></td></tr>
<tr><td>12</td><td>DFS2</td><td>I</td></tr>
</table>

No.	PIN NAME	I / O	FUNCTION
13	MOTEO	O	Output of nfinity Zero Detector
14	RSTN	I	System Reset H = Normal, L = Reset
15	DVSS		Digital GND Terminal (0V)
16	DVDD		Digital VDD Terminal (5V)
17	AVDD1		Analog VDD Terminal 1 (5V)
18	LO	O	PWM Output of L-channel (+)
19	AVSS1		Analog GND Terminal 1 (0V)
20	LON	O	PWM Output of L-channel (-)
21	AVDD2		Analog VDD Terminal 2 (5V)
22	AVDD3		Analog VDD Terminal 3 (5V)
23	RON	O	PWM Output of R-channel (-)
24	AVSS2		Analog GND Terminal 2 (0V)
25	RO	O	PWM Output of R-channel (+)
26	AVDD		Analog VDD Terminal 4 (5V)
27	XVDD		VDD Terminal of Crystal Route (5V)
28	XTI	I	Input Terminal of Oscillation


XTO 1
XVSS 2
CKSLN 3
CKO 4
TSTN 5
MODN 6
ATTN 7
LRCI 8
BCKI 9
DIN 10
DFS1 11
DFS2 12
MUTEO 13
RSTN 14
28 XTI
27 XVDD
26 AVDD4
25 RO
24 AVSS2
23 RON
22 AVDD3
21 AVDD2
20 LON
19 AVSS1
18 LO
17 AVDD1
16 DVDD
15 DVSS


DIN 10
LRCI 8
ATTN 7
MODN 6
TSTN 5
BCKI 9
DFS1 11
DFS2 12
MUTEO 13
RSTN 14
DVSS 15
DVDD 16
AVDD1 17
INPUT INTERFACE INFINITY ZERO DETECTOR
L
R
FILTER OPERATIONAL & ATTENUTION OPERATIONAL BLOCK
TIMING CONTROL
L
R
NOISE SHAPER OPERATIONAL BLOCK
PWM DATA OSC BLOCK
L
R
1/2
4 CKO
3 CKSLN
2 XVSS
1 XTO
28 XTI
27 XVDD
26 AVDD4
18 LO
19 AVSS1
20 LON
21 AVDD2
22 AVDD3
25 RO
24 AVSS2
23 RON

IC106 XRA15218F (Dual Operational Amplifier)


VOUT1 1
VIN⁻1 2
VIN⁺1 3
VEE 4
8 VCC
7 VOUT2
6 VIN⁻2
5 VIN⁺2
−
+
+
−

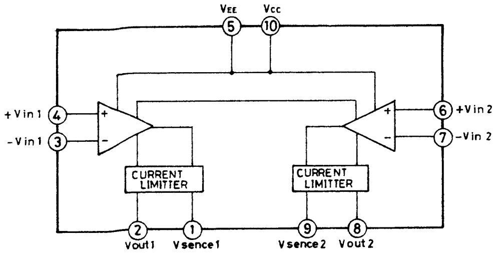
BLOCK .DIAGRAM (CD MICON)

31 µPD65116 (Micro Processor)

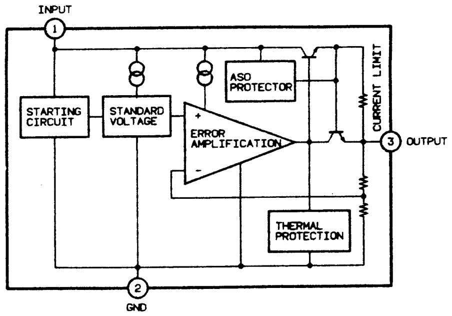
No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O
1	CD MUTE	P41	Control Signal of Analogue Muting	O
2	P CONT	P40	Control Signal of Power Supply for CD Circuit	O
3	NC	P53	Not Used (Open)	O
4	FC	P52	Function Control C Signal	O
5	FB	P51	Function Control B Signal	O
6	FA	P50	Function Control A Signal	O
7	RESET	RESET	System Reset	I
8	X2	XO	X'tal Out (4.19 MHz)	O
9	X1	XI	X'tal In (4.19 MHz)	I
10	V CHK	P63	Detection Signal of the Stoppage Failure of Electricity	I
11	V DEC O	P62	Detection Signal Out of Voltage Drop	O
12	V DEC I	P61	Detection Signal In of Voltage Drop	I
13	TU MUTE	P60	Control Signal of Tuner Muting	O
14	NC	P73	Not Used (Ground)	I
15	NC	P72	Not Used (Ground)	I
16	DUB IN	P71	Dubbing Signal	I
17	TA AF	P70	Function Signal for Tape Deck	I
18	NC	P83	Not Used (Open)	O
19	NC	P82	Not Used (Open)	O
20	CLV GAIN	P81	Select Signal for CLV (Constant Linear Velocity) Gain	O
21	AMP SO	P80	Data Out to AD Micro Processor (µPD75512)	O
22	AMP SCK	P93	Clock Out to AD Micro Processor (µPD75512)	O
23	TRAY LED	P92	CD Tray Indicator LED	O
24	SUB SO	P91	Data Out to Sub Micro Processor (µPD73508)	O
25	SUB SCK	P90	Clock Out to Sub Micro Processor (µPD73508)	O
26	VSS	VSS	Ground	
27	SUB BUSY	P13/INT3	Busy Signal In from Sub Micro Processor (µPD73508)	I
28	AMP BUSY	P12/INT2	Busy Signal In from AD Micro Processor (µPD75512)	I
29	WRQ	P11/INT1	DSP (Digital Signal Processor) Interface [Sub Q Request]	I
30	IR	P10/INT0	Infrared Ray Receiving (Remocon) Signal	I
31	KEY3	PTH03	Key Input Signal	I
32	KEY2	PTH02	Key Input Signal	I
33	KEY1	PTH01	Key Input Signal	I
34	KEY0	PTH00	Key Input Signal	I
35	NC	TI0	Not Used (Open)	
36	NC	TI1	Not Used (Open)	
37	CLOSE	P23	Control Signal of Tray Close	O
38	CLK OUT	P22/PCL	Clock Signal for Adjustment	O
39	OPEN	P21/PT01	Control Signal of Tray Open	O
40	RWC	P20/PT00	DSP (Digital Signal Processor) Interface [Command Latch]	O
41	SQOUT	P03/SI	DSP (Digital Signal Processor) Interface [Sub Q Data]	I
42	COIN	P02/SO	DSP (Digital Signal Processor) Interface [Command Data]	O
43	CQCK	P01/SCK	DSP (Digital Signal Processor) Interface [Clock]	O
44	DRF	P00/INT4	DRF Signal	I
45	OPN SW	P123	Switch Detection Signal for Open End of CD Tray	I
46	LIM SW	P122	Switch Detection Signal for Limit of Pickup	I
47	NC	P121	Not Used (Ground)	I
48	NC	P120	Not Used (Ground)	I
49	NC	P133	Not Used (Ground)	I
50	NC	P132	Not Used (Ground)	I
51	SW PRE	P131	Select Signal from ON/OFF Switch for Pre Muting	I
52	SW HI AC	P130	Select Signal from ON/OFF Switch for High Speed Access	I
53	SW DAC	P143	Select Signal from ON/OFF Switch for DAC (Digital to Analogue Converter)	I
54	SW BAND	P142	Select Signal from TU/BAND or FM Switch for Remocon Function	I
55	SW PST	P141	Select Signal from PST UP or SCAN Switch for Remocon Function	I
56	SW S D	P140	Select Signal from S/D Series Switch	I
57	NC	NC	Not Connection	
58	VDD	VDD	Power Supply +5V	
59	PULL UP	P33	Power supply to Pull Up Resistors	O
60	NC	P32	Not Used (Open)	O
61	DSP RES	P31	Reset Control Signal for DSP (Digital Signal Processor)	O
62	ATT	P30	DAC (Digital to Analogue Converter) Interface [Data]	O
63	SHIFT	P43	DAC (Digital to Analogue Converter) Interface [Clock]	O
64	LATCH	P42	DAC (Digital to Analogue Converter) Interface [Latch]	O

IC BLOCK DIAGRAM (TUNER)

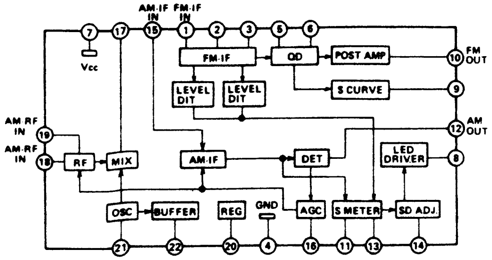
IC132 LA6510 (Dual Power Operational Amplifier)


VEE
Vcc
5
10
+Vin 1
-Vin 1
4
3
6
7
+Vin 2
-Vin 2
CURRENT LIMITTER
CURRENT LIMITTER
2
1
9
8
Vout1
Vsence1
Vsence2
Vout2

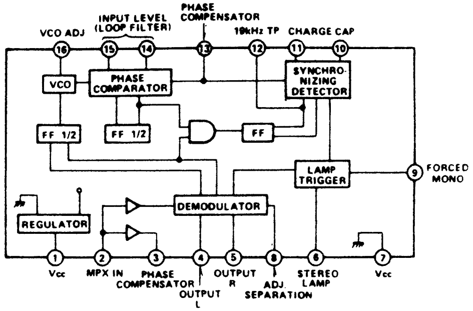
IC133 NJM78M12 (3-Terminal Voltage Regulator)


INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ASO PROTECTOR
ERROR AMPLIFICATION
CURRENT LIMIT
3
OUTPUT
THERMAL PROTECTION
2
GND

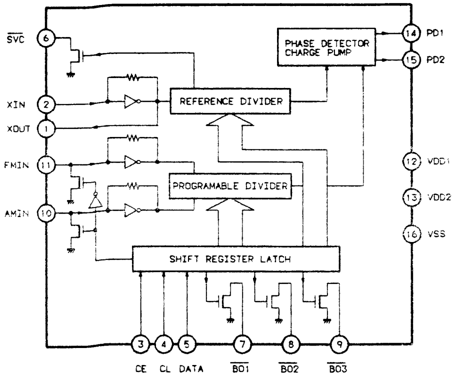
IC201 LA2165 (Tuner IF System)


AM-IF IN
FM-IF IN
Vcc
FM-IF
QD
POST AMP
FM OUT
LEVEL DIT
LEVEL DIT
S CURVE
AM-RF IN
AM-RF IN
AM OUT
RF
MIX
AM-IF
DET
LED DRIVER
OSC
BUFFER
REG
GND
AGC
S METER
SD ADJ.

IC202 LA3361 (FM PLL MPX. Stereo Demodulator)


VCO ADJ
INPUT LEVEL (LOOP FILTER)
PHASE COMPENSATOR
19kHz TP
CHARGE CAP
VCO
PHASE COMPARATOR
SYNCHRO-NIZING DETECTOR
FF 1/2
FF 1/2
FF
LAMP TRIGGER
FORCED MONO
REGULATOR
DEMODULATOR
Vcc
MPX IN
PHASE COMPENSATOR
OUTPUT L
OUTPUT R
ADJ. SEPARATION
STEREO LAMP
Vcc

IC203 LM7001 (PLL Frequency Synthesizer with Pre-Scaer)


SVC
XIN
XOUT
FMIN
AMIN
PHASE DETECTOR CHARGE PUMP
PD1
PD2
REFERENCE DIVIDER
PROGRAMABLE DIVIDER
VDD1
VDD2
VSS
SHIFT REGISTER LATCH
CE
CL
DATA
BO1
BO2
BO3

BLOCK . DIAGRAM (TUNER & LCD DRIVE MICON)

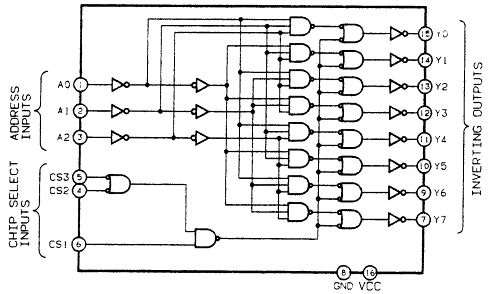
51 µPD75306GF-225-3B9 (Micro Processor)

No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
1	SEG12	S12	Segment of Liquid Crystal Display		LCD
2	SEG13	S13	Segment of Liquid Crystal Display		LCD
3	SEG14	S14	Segment of Liquid Crystal Display		LCD
4	SEG15	S15	Segment of Liquid Crystal Display		LCD
5	SEG16	S16	Segment of Liquid Crystal Display		LCD
6	SEG17	S17	Segment of Liquid Crystal Display		LCD
7	SEG18	S18	Segment of Liquid Crystal Display		LCD
8	SEG19	S19	Segment of Liquid Crystal Display		LCD
9	SEG20	S20	Segment of Liquid Crystal Display		LCD
10	SEG21	S21	Segment of Liquid Crystal Display		LCD
11	SEG22	S22	Segment of Liquid Crystal Display		LCD
12	SEG23	S23	Segment of Liquid Crystal Display		LCD
13	SEG24	S24/BP0	Segment of Liquid Crystal Display		LCD
14	SEG25	S25/BP1	Segment of Liquid Crystal Display		LCD
15	SEG26	S26/BP2	Segment of Liquid Crystal Display		LCD
16	SEG27	S27/BP3	Segment of Liquid Crystal Display		LCD
17	AUTO	S28/BP4	Auto Tuning Signal ACTIVE : HIGH LEVEL	O	TUNER
18	NC	S29/BP5	Not Used (Open)	O	OPEN
19	NC	S30/BP6	Not Used (Open)	O	OPEN
20	NC	S31/BP7	Not Used (Open)	O	OPEN
21	COM 0	COM0	Common of Liquid Crystal Display		LCD
22	COM 1	COM1	Common of Liquid Crystal Display		LCD
23	COM 2	COM2	Common of Liquid Crystal Display		LCD
24	COM 3	COM3	Common of Liquid Crystal Display		LCD
25	BIAS	BIAS	Bias of Liquid Crystal Display		
26	VLC0	V_{LC0}	Power Supply for Drive of Liquid Crystal Display		
27	VLC1	V_{LC1}	Power Supply for Drive of Liquid Crystal Display		
28	VLC2	V_{LC2}	Power Supply for Drive of Liquid Crystal Display		
29	STEP	P40	AM Step Selection 9kHz (V_{DD}) / 10kHz (V_{SS})	I	TUNER
30	ST	P41	ST Signal ACTIVE : LOW LEVEL	I	TUNER
31	SD	P42	SD Signal ACTIVE : LOW LEVEL	I	TUNER
32	NC	P43	Not Used (Ground)	I	V_{SS}
33	VSS	V_{SS}	Ground		
34	CE (S)	P50	Data Signal from LM7001 (For S Series)	O	TUNER
35	CLK (S)	P51	Data Signal from LM7001 (For S Series)	O	TUNER
36	DO (S)	P52	Data Signal from LM7001 (For S Series)	O	TUNER
37	MONO (S)	P53	Compulsion Monaural (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
38	NC	P00/INT4	Not Used (Ground)	I	V_{SS}
39	SCK	P01/SCK	Clock Signal In from Main Micro Processor (µPD65117)	I	MAIN µCON
40	NC	P02/SO/SB0	Not Used (Ground)		V_{SS}
41	SI	P03/SI/SB1	Data In from Main Micro Processor (µPD65117)	I	MAIN µCON
42	NC	P10/INT0	Not Used (Ground)	I	V_{SS}
43	NC	P11/INT1	Not Used (Ground)	I	V_{SS}
44	NC	P12/INT2	Not Used (Ground)	I	V_{SS}
45	NC	P13/T10	Not Used (Ground)	I	V_{SS}
46	WIDE	P20/PT100	Select Signal for AM Signal Type Wide (HIGH) / Narrow (LOW)	O	TUNER
47	PCON (S)	P21	Tuner Power Signal (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
48	MUTE	P22/PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
49	BUSY	P23/BUZ	Busy Signal Out to Main Micro Processor (µPD65117)	O	MAIN µCON
49	BUSY	P23/BUZ	Busy Signal Out to Main Micro Processor (µPD65117)	O	MAIN µCON
50	S0	P30/LCDCL	Initial Set for User = Country (Open or Ground)	I	
51	S1	P31/SYNC	Initial Set for User = Country (Open or Ground)	I	
52	S2	P32	Initial Set for User = Country (Open or Ground)	I	
53	S3 (FM MUTE)	P33	Select Signal for FM Auto Mute SET (Open) / NOT (V_{SS})	I	
54	VDD	V_{DD}	Power Supply +5V		V_{DD}
55	NC	XT1	Not Used (Ground) OSC X'tal Terminal for Main Clock	I	V_{SS}
56	NC	XT2	Not Used (Open) OSC X'tal Terminal for Main Clock	O	
57	NC	NC	Non Connection		
58	X1	XI	X'tal In (4.194304 MHz)	I	
59	X2	XO	X'tal Out (4.194304 MHz)	O	
60	S4 (12H/24H)	P60/KR0	Select Signal for CLOCK 24H (Open) / 12H (V_{SS})	I	
61	S5 (AM IF)	P61/KR1	Select Signal for AM IF SET (Open) / NOT (V_{SS})	I	TUNER
62	S6 (D/S)	P62/KR2	Select Signal for D & S Series SET (Open) / NOT (V_{SS})	I	
48	MUTE	P22/PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
63	MONO (D)	P63/KR3	Compulsion Monaural (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
64	DO (D)	P70/KR4	Data Signal from LM7001 (For D Series)	O	TUNER
65	CLK (D)	P71/KR5	Data Signal from LM7001 (For D Series)	O	TUNER

IC BLOCK DIAGRAM (FUNCTION SELECTOR)

PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
66	CE (D)	P72/KR6	Data Signal from LM7001 (For D Series)	O	TUNER
67	PCON (D)	P73/KR7	Tuner Power Signal (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
68	RESET	RESET	System Reset Signal		RESET CIRCUIT
69	SEG0	S0	Segment of Liquid Crystal Display		LCD
70	SEG1	S1	Segment of Liquid Crystal Display		LCD
71	SEG2	S2	Segment of Liquid Crystal Display		LCD
72	SEG3	S3	Segment of Liquid Crystal Display		LCD
73	SEG4	S4	Segment of Liquid Crystal Display		LCD
74	SEG5	S5	Segment of Liquid Crystal Display		LCD
75	SEG6	S6	Segment of Liquid Crystal Display		LCD
76	SEG7	S7	Segment of Liquid Crystal Display		LCD
77	SEG8	S8	Segment of Liquid Crystal Display		LCD
78	SEG9	S9	Segment of Liquid Crystal Display		LCD
79	SEG10	S10	Segment of Liquid Crystal Display		LCD
80	SEG11	S11	Segment of Liquid Crystal Display		LCD

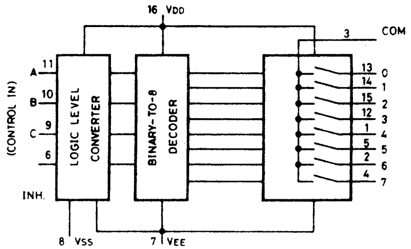
IC252 MC74HC138AN (LED Driver)



TRUTH TABLE

INPUTS						OUTPUTS							
CHIP SELECT			ADDRESS										
CS1	CS2	CS3	A2	A1	A0	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
X	X	H	X	X	X	H	H	H	H	H	H	H	H
X	H	X	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	L	H	L	H	H	L	H	H	H	H	H
H	L	L	L	H	H	H	H	H	L	H	H	H	H
H	L	L	H	L	L	H	H	H	H	L	H	H	H
H	L	L	H	L	H	H	H	H	H	H	L	H	H
H	L	L	H	H	L	H	H	H	H	H	H	L	H
H	L	L	H	H	H	H	H	H	H	H	H	H	L

IC261 • 262 MC14051BCP (3-Input 8-Channel Multiplexer / De-Multiplexer)

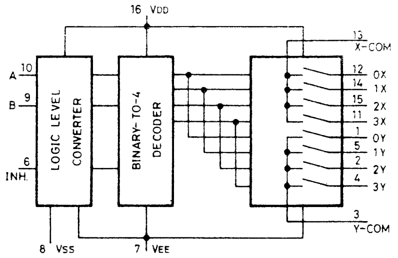


TRUTH TABLE

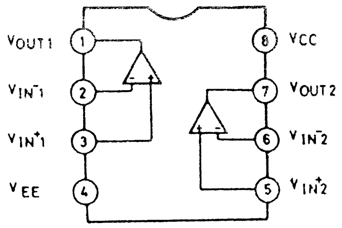
CONTROL INPUTS				(ON) CHANNEL	
INHIBIT	C	B	A	4051	4052
L	L	L	L	0	0X 0Y
L	L	L	H	1	1X 1Y
L	L	H	L	2	2X 2Y
L	L	H	H	3	3X 3Y
L	H	L	L	4	-----
L	H	L	H	5	-----
L	H	H	L	6	-----
L	H	H	H	7	-----
H	X	X	X	NONE	NONE

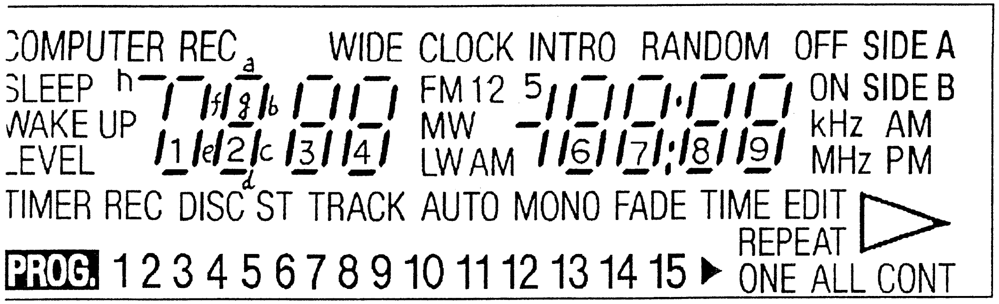
X : DON'T CARE C (4052) : EXCEPT

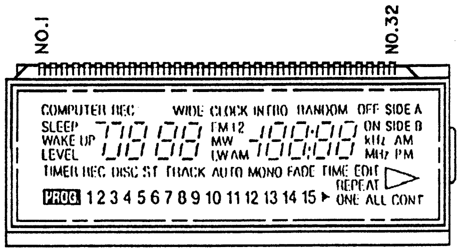
IC263 MC14052BCP (2-Input 4-Channel x 2 Multiplexer / De-Multiplexer)



IC264 • 265 NJM6458D (Dual Operational Amplifier)




COMPUTER REC
a
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
h
f
g
b
FM 1 2
5
ON SIDE B
WAKE UP
MW
kHz AM
LEVEL
1
e
2
c
3
4
d
LW AM
6
7
8
9
MHz PM
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
ONE ALL CONT


NO.1
NO.32
COMPUTER REC WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP FM 1 2 ON SIDE B
WAKE UP MW kHz AM
LEVEL LW AM MHz PM
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 ONE ALL CONT

NO.	COM. 1	COM. 2	COM. 3	COM. 4
1	CONT	ALL	ONE	REPEAT
2	13	14	15	▶
3	12	11	10	9
4	5	6	7	8
5	4	3	2	1
6	SLEEP	WAKE UP	TIMER	REC
7	COMP. REC	LEVEL	DISC	PROG.
8	1h	1a.e.f	1b.c	1d
9	2f	2g	2e	2d
10	2a	2b	2c	ST
11	3f	3g	3e	3d
12	3a	3b	3c	TRACK
13	4f	4g	4e	4d
14	4a	4b	4c	AUTO
15	WIDE	FM	MW	LW
16	CLOCK	1 (FM)	2 (FM)	AM

NO.	COM. 1	COM. 2	COM. 3	COM. 4
17	INTRO	5b.c	5g	
18	6f	6g	6e	6d
19	6a	6b	6c	MONO
20	7f	7g	7e	7d
21	7a	7b	7c	FADE
22	RANDM	:	.	TIME
23	8f	8g	8e	8d
24	8a	8b	8c	EDIT
25	9f	9g	9e	9d
26	9a	9b	9c	▷
27	OFF	ON	KHz	MHz
28	DISE A	DISE B	AM	PM
29	COM. 1			
30		COM. 2		
31			COM. 3	
32				COM. 4

VOLTAGES OF IC (CD)

(Unit : Volt)

IC101 LA9210M

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0	-5.0	0	0	0	0	0	0	0	2.59	2.54	2.55	0	0	0	0
Play Mode	0	-5.0	Fluc	Fluc	Fluc	Fluc	Fluc	0	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	0	0	0	0	Fluc	Fluc	0	0	0	0	Fluc	2.43	0	0	0	-5.0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	-5.0
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	0	0	0	5.0	4.39	0	0	0	0	0	0	0	4.97	4.92	4.07	4.07
Play Mode	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	4.07	0	0	0	2.52	2.49	2.50	5.0	2.51	2.51	2.54	3.92	2.60	2.33	4.92	0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0
Measuring Pin No.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Stop Mode	0	0.4	-0.4	0	-0.5	-0.5	0	-0.5	0	4.82	-4.97	4.83	5.0	0	0	0
Play Mode	0	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	0

IC102 LA6524

Fluc : Fluctuation

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10
Play Mode	Fluc	Fluc	-11	Fluc	Fluc	Fluc	Fluc	10	Fluc	8.60

IC104 LC7866E

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0	2.31	2.34	2.51	0	2.46	2.48	2.52	0	0	0	4.92	0	2.51	4.07	4.07
Play Mode	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	4.07	2.5	0	4.95	4.97	0	0	5.0	0	0	0	0	0	5.0	1.25	1.25
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	2.5	2.5	0	2.5	0	2.5	2.41	1.63	2.5	4.5	2.52	Fluc	2.28	0	2.5	0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0(4.5)	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	2.5	Fluc	Fluc	Fluc	0	5.0	4.48	0	4.92	Fluc	2.33	4.93	0	0	2.28	2.47
Play Mode	Fluc	Fluc	Fluc	Fluc	0	5.0	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc

IC105 SM5870DS

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Play Mode	3.0	0	0	0	5.0	5.0	5.0	2.5	2.4	1.6	5.0	0	0	4.8	0	5.0
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28				
Play Mode	5.0	2.4	0	2.4	5.0	5.0	2.4	0	2.4	5.0	5.0	1.3				

IC106 XRA15218F

Measuring Pin No.	1	2	3	4	5	6	7	8
Play Mode	Fluc	1.3	1.3	-5.0	1.3	1.3	Fluc	5.0

IC131 μPD75116

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0			(0)	(0)	(0)										(0)
Play Mode	4.8	5.0	0	(5.0)	(5.0)	(5.0)	5.0	2.5	2.5	4.7	5.0	5.0	0	0	0	(4.8)
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode							(0)	0								
Play Mode	0	0	0	0	0	5.0	(5.0)	Fluc	2.5	0	4.7	4.8	0	5.0	5.0	5.0
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode					(0)		(5.0)					0				
Play Mode	5.0	5.0	0	0	(5.0)	0	(0)	0	0	0	5.0	4.0	5.0	5.0	0	0
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode													(0)			0
Play Mode	0	0	0	0	0	5.0	0	0	5.0	5.0	5.0	5.0	(5.0)	0	5.0	5.0

NOTES :

PIN 4 : Stop Mode = OTHER
Play Mode = TAPE & TUNER

PIN 5 : Stop Mode = OTHER
Play Mode = CD & PHONO

PIN 6 : Stop Mode = OTHER
Play Mode = TUNER, AV & CD

PIN 16 : Stop Mode = OTHER
Play Mode = WAIT THE SYNCRO

PIN 23 : Stop Mode = ON THE DISC
Play Mode = ON THE NO DISC

PIN 37 : Stop Mode = OTHER
Play Mode = CLOSING THE TRAY

PIN 39 : Stop Mode = OTHER
Play Mode = OPENING THE TRAY

PIN 62 : Stop Mode = EMPHASIS ON
Play Mode = EMPHASIS OFF

VOLTAGES OF IC & TRANSISTOR (CD)

IC132 LA6510

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10
Play Mode	10	-5	-5	0	0	-11	5	5	5.5	5

IC133 L78M12ML

Measuring Pin No.	1	2	3
Play Mode	19	0	12

TRANSISTOR

(Unit : Volt)

Transistor No.	Q101			Q102			Q103			Q1301		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode	5.0	0	4.7	2.0	2.5	2.5	0	0	0.6			
Play Mode	3.6	1.8	3.0				0	4.9	0	5.0	5.0	0

Transistor No.	Q1302			Q1303			Q1304			Q1305		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode				4.8	4.8	0	0	(0)	(5.0)			
Play Mode	0	5.0	0	0	-5.0	0	0	(1.9)	(0)	4.7	4.6	4.0

Transistor No.	Q1500			Q1501			Q1601			Q1604		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode	0	0	0.6	0	0	0.6						
Play Mode	0	0	-5.0	0	0	-5.0	5.7	12.1	6.4	12.0	11.9	11.3

Transistor No.	Q1605		
Measuring Pin Name	E	C	B
Stop Mode	0	(0)	(5)
Play Mode	0	(12.0)	(0)

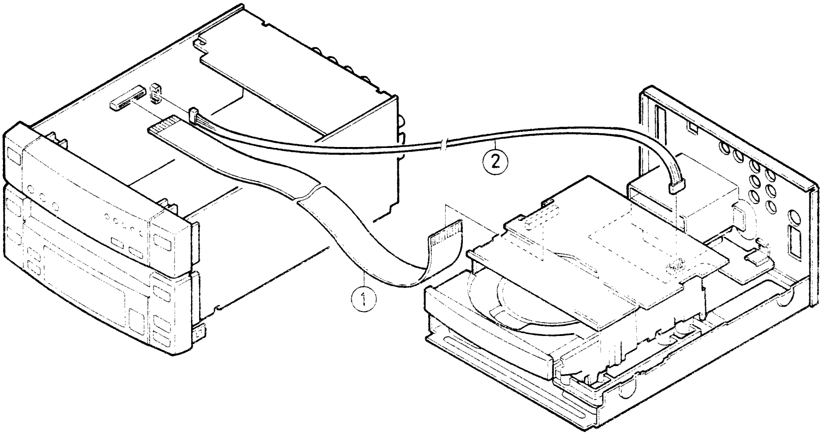
NOTES :

Q1304 : Stop Mode = POWER ON
Play Mode = POWER OFF

Q1605 : Stop Mode = POWER ON
Play Mode = POWER OFF

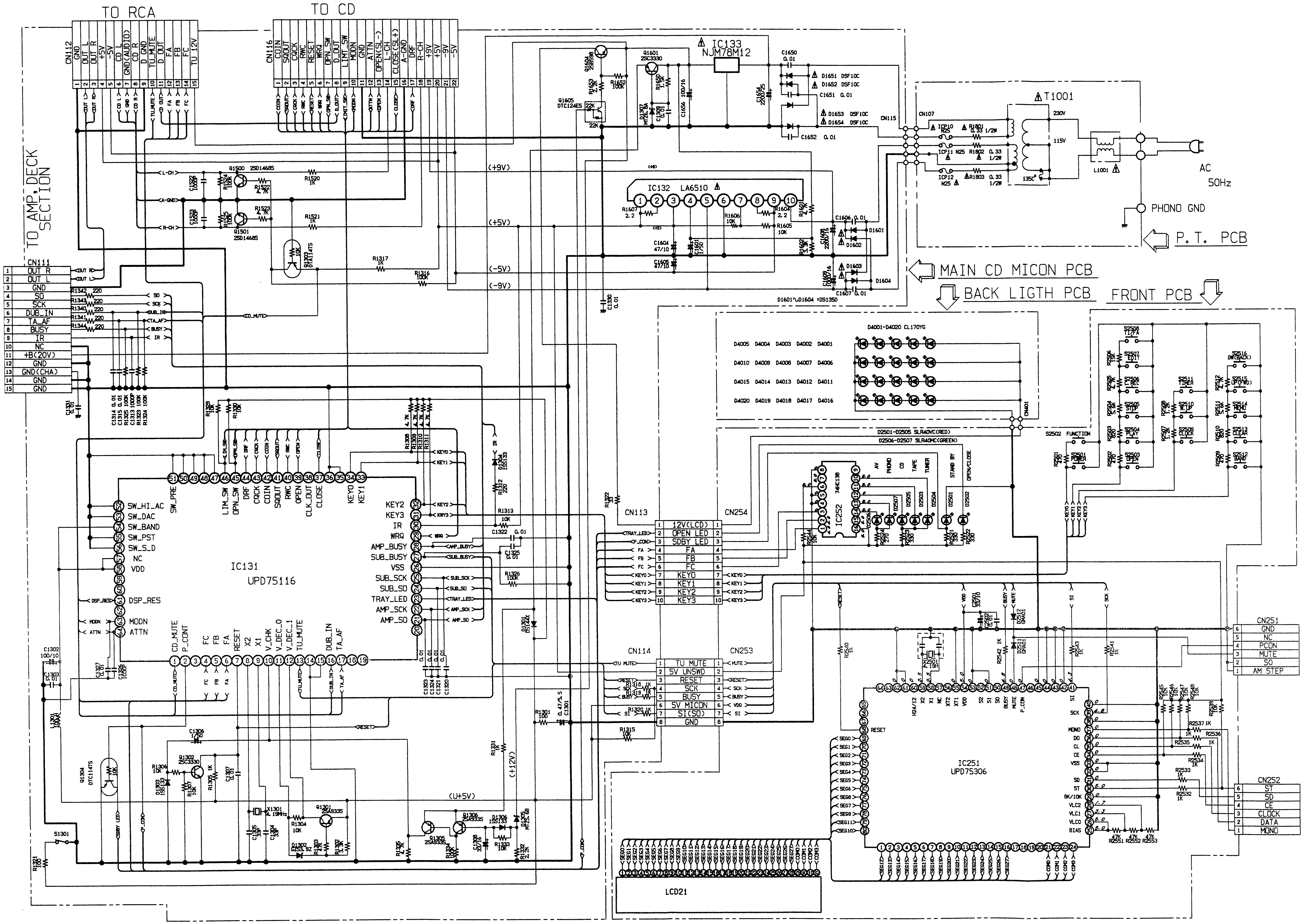
TOOL FOR REPAIRABLE (CD / TUNER UNIT)

Please use the tools (PCB relay cord) for repairable

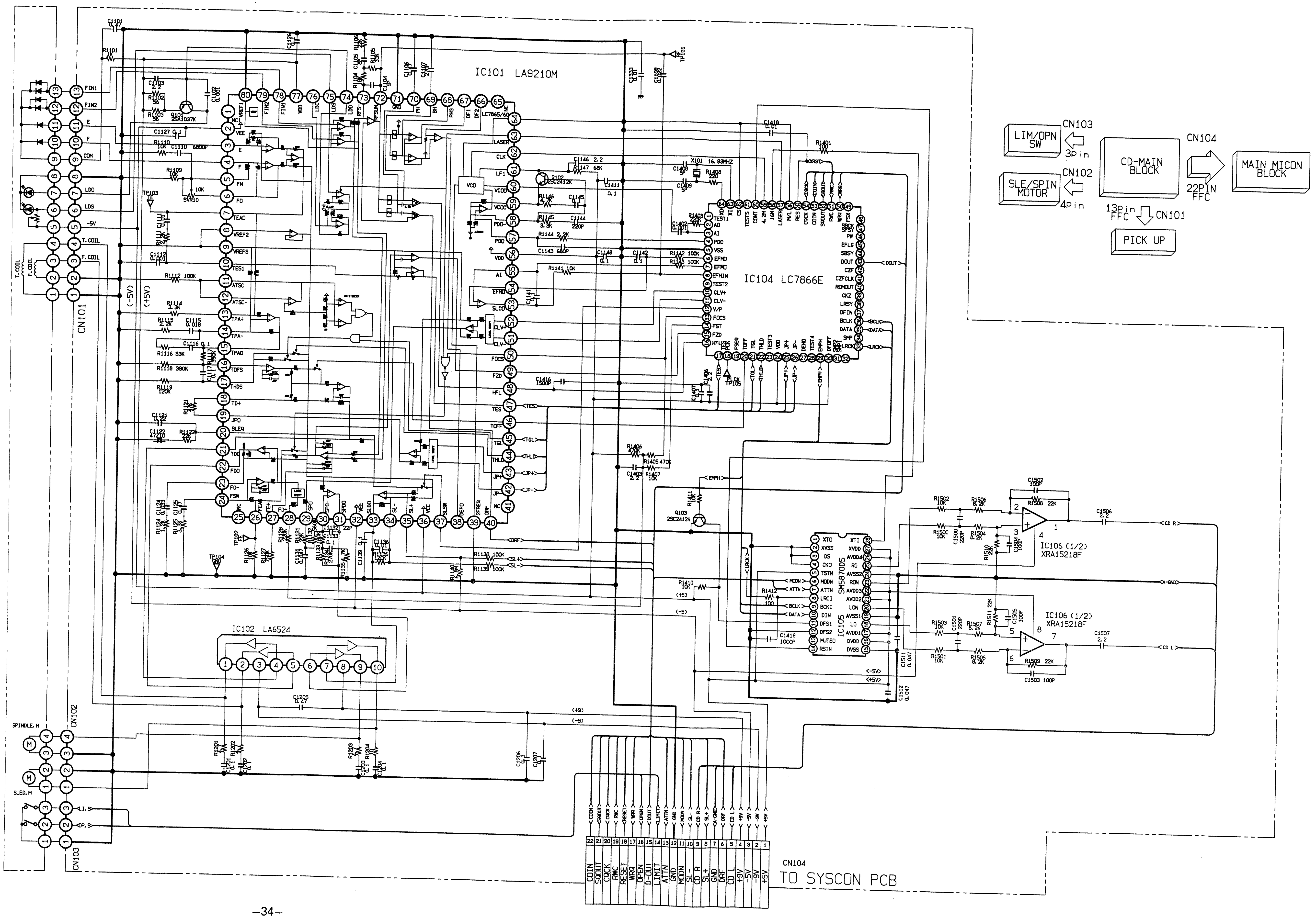


NO.	PARTS CODE
①	614 248 3558
②	614 248 3534

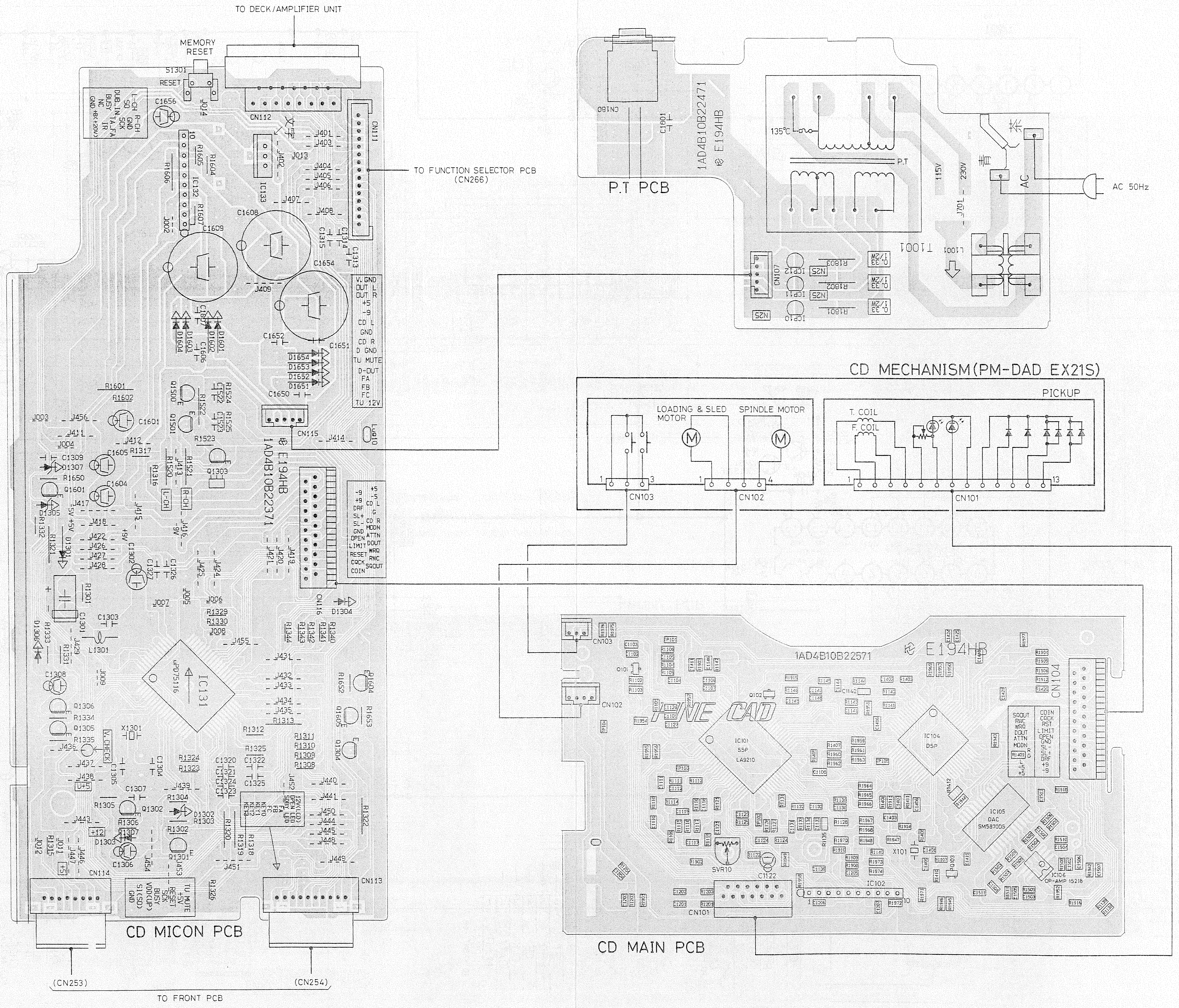
SCHEMATIC DIAGRAM (SYSCON & FRONT)


TO RCA
TO CD
CN112
GND
OUT L
OUT R
+5V
-5V
CD L
GND(AUDIO)
CD R
D GND
TU MUTE
D OUT
FA
FB
FC
TU 12V
CN116
COIN
SQOUT
CQCK
RWC
RESET
WRQ
OPN_SW
D_OUT
LIMIT_SW
MODN
GND
ATTN
OPEN(SL-)
CLOSE(SL+)
A-GND
DRF
R-CH
+9V
+5V
-9V
-5V
IC133
NJM78M12
Q1601
2SC3330
Q1604
2SB598
Q1605
DTC124ES
C1650
0.01
D1651 DSF10C
D1652 DSF10C
C1651 0.01
D1653 DSF10C
D1654 DSF10C
C1652 0.01
T1001
CN107
CN115
230V
115V
135C°
L1001
AC
50Hz
PHONO GND
P. T. PCB
TO AMP, DECK SECTION
Q1500 2SD1468S
Q1501 2SD1468S
R1520 1K
R1521 1K
R1522 4.7K
R1523 4.7K
(+9V)
(+5V)
(-5V)
(-9V)
L-CH
A-GND
R-CH
IC132 LA6510
R1607 2.2
R1604 2.2
R1605 10K
R1606 10K
C1604 47/10
C1605 47/10
C1606 0.01
C1607 0.01
D1601
D1602
D1603
D1604
D1601~D1604 :DS135D
MAIN CD MICON PCB
BACK LIGTH PCB
FRONT PCB
R1317 1K
R1316 100K
C1300 0.01
CN111
OUT R
OUT L
GND
SD
SCK
DUB_IN
TA_AF
BUSY
IR
NC
+B(20V)
GND
GND(CHA)
GND
GND
R1342 220
R1343 220
R1340 220
R1341 220
R1344 220
CD_MUTE
C1314 0.01
C1315 0.01
R1325 100K
C1313 1000P
R1323 100K
R1324 100K
C1331 0.01
D4001-D4020 CL170YG
D4005 D4004 D4003 D4002 D4001
D4010 D4009 D4008 D4007 D4006
D4015 D4014 D4013 D4012 D4011
D4020 D4019 D4018 D4017 D4016
CN401
D2501-D2505 SLR40VC(RED)
D2506-D2507 SLR40MC(GREEN)
S2502 FUNCTION
S2501 POWER
S2503 OPEN
S2504 PLAY
S2505 STOP
S2506 L_REC
S2507 EDIT
S2508 TI/FA
S2509 R_REC
S2510 STOP
S2511 TIMER
S2512 CLEAR
S2513 BAND
S2514 MEMO
S2515 UP(FWD)
S2516 DW(BACK)
IC131
UPD75116
SW_PRE
LIM_SW
OPN_SW
DRF
CQCK
COIN
SQOUT
RWC
OPEN
CLK_OUT
CLOSE
KEY0
KEY1
KEY2
KEY3
IR
WRQ
AMP_BUSY
SUB_BUSY
VSS
SUB_SCK
SUB_SO
TRAY_LED
AMP_SCK
AMP_SO
SW_HI_AC
SW_DAC
SW_BAND
SW_PST
SW_S_D
NC
VDD
DSP_RES
MODN
ATTN
CD_MUTE
P_CONT
FC
FB
FA
RESET
X2
X1
V_CHK
V_DEC_0
V_DEC_1
TU_MUTE
DUB_IN
TA_AF
R1306 4.7K
R1309 4.7K
R1310 4.7K
R1311 4.7K
R1312 220
R1313 10K
C1322 0.01
R1326 100K
D1304 1SS133
D1301 DS142K
C1323 0.01
C1324 0.01
C1321 0.01
C1320 0.01
R1322 33
CN113
CN254
12V(LCD)
OPEN LED
SDBY LED
FA
FB
FC
KEY0
KEY1
KEY2
KEY3
IC252
74HC138
AV
PHONO
CD
TAPE
TUNER
STAND BY
OPEN/CLOSE
D2505
D2503
D2504
D2501
D2502
D2507
D2506
CN114
CN253
TU MUTE
5V UNSWD
RESET
SCK
BUSY
5V MICON
SI(SO)
GND
R1301 100
C1301 0.47/5.5
R1320 1K
R1315 10K
R1331 1K
(+12V)
(U+5V)
C1302 100/10
C1303 0.01
C1307
C1308
R1321 10K
S1301
Q1304 DTC114TS
Q1302 2SC3330
R1302 10K
R1303 10K
R1305 1K
C1306 1/50
X1301 4.19MHz
Q1301 2SA935
R1304 10K
D1302 RD5.1SB
R1332 10K
R1335 4.7K
Q1305 2SA935
Q1306 2SA935
D1305 1SS133
D1306 MTZ5.6B
R1334 10K
R1333 10K
R1332 2.2K
IC251
UPD75306
CN251
GND
NC
PCON
MUTE
SO
AM STEP
CN252
ST
SD
CE
CLOCK
DATA
MONO
X2501 4.19M
H24/12
X2
X1
NC
XT2
XT1
VDD
S2
S1
SO
BUSY
MUTE
P_CON
SCK
MONO
DO
CL
CE
VSS
SD
ST
9K/10K
VLC2
VLC1
VLCO
BIAS
RESET
SEG0
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
R2531 47K
R2532 1K
R2533 1K
R2534 1K
R2535 1K
R2536 1K
R2537 1K
R2552 47K
R2553 47K
LCD21
COM0
COM1
COM2
COM3

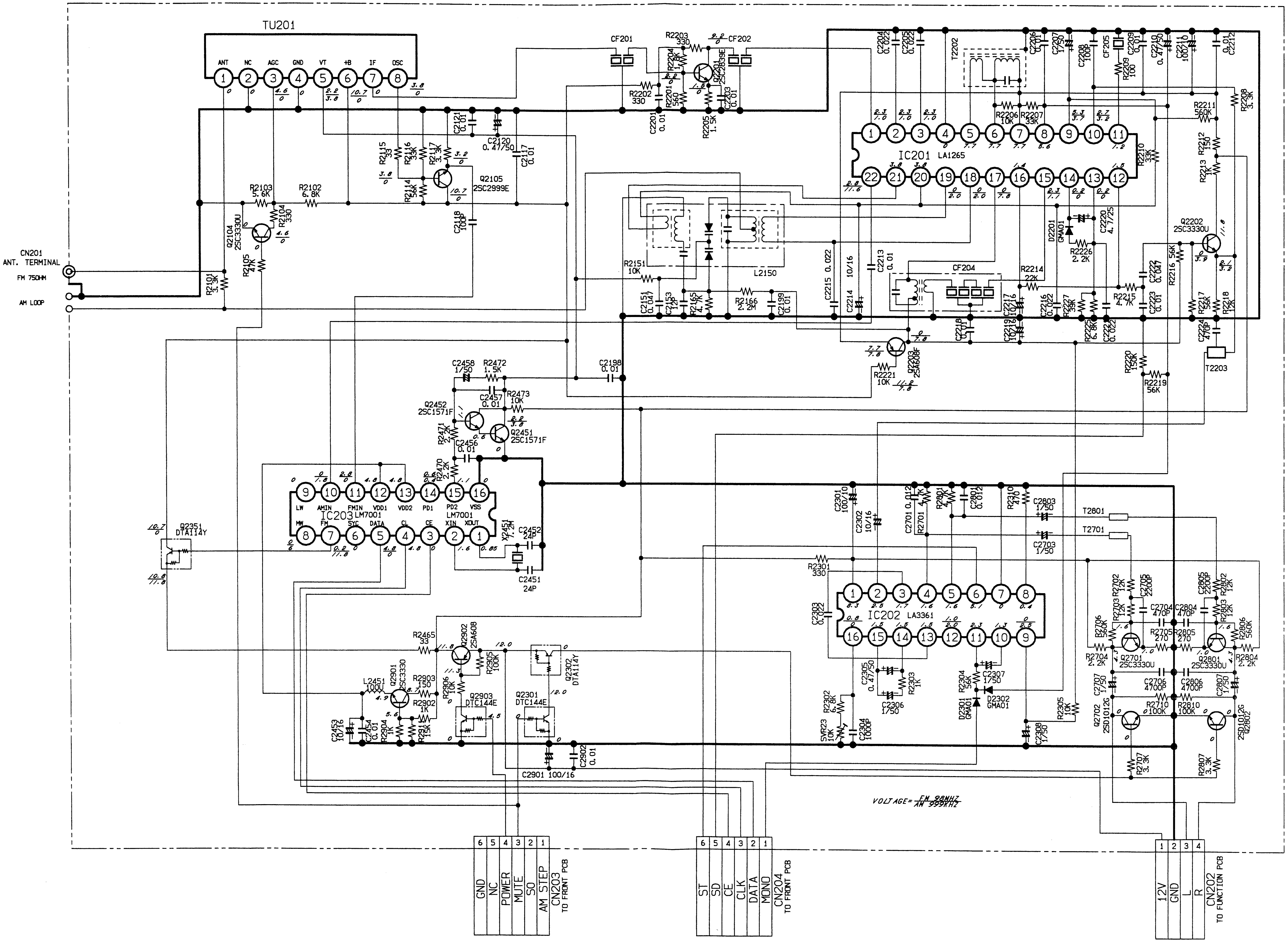
SCHEMATIC DIAGRAM (CD MAIN)


IC101 LA9210M
IC104 LC7866E
IC102 LA6524
IC105 SM5870DS
IC106 (1/2) XRA15218F
IC106 (1/2) XRA15218F
X101 16.93MHZ
Q101 2SA1037K
Q102 2SC2412K
Q103 2SC2412K
SVR10
TP101
TP102
TP103
TP104
TP105
CN101
CN102
CN103
CN104
T.COIL
F.COIL
SPINDLE.M
SLED.M
FIN1
FIN2
E
F
COM
LDO
LDS
-5V
(-5V)
(+5V)
(+9)
(-9)
<DOUT>
<BCLK>
<DATA>
<LRCK>
<TES>
<TGL>
<THLD>
<JP+>
<JP->
<DRF>
<SL+>
<SL->
<EMPH>
<CD R>
<CD L>
<A-GND>
<-5V>
<+5V>
<I.S>
<O.P.S>
COIN
SQOUT
CQCK
RWC
RESET
WRQ
OPEN
D-OUT
LIMIT
ATTN
GND
MODN
SL-
CD R
SL+
GND
DRF
CD L
+9V
-5V
-9V
+5V
CN104
TO SYSCON PCB
LIM/OPN SW
CN103
3Pin
SLE/SPIN MOTOR
CN102
4Pin
CD-MAIN BLOCK
CN104
22PIN FFC
MAIN MICON BLOCK
13Pin FFC
CN101
PICK UP

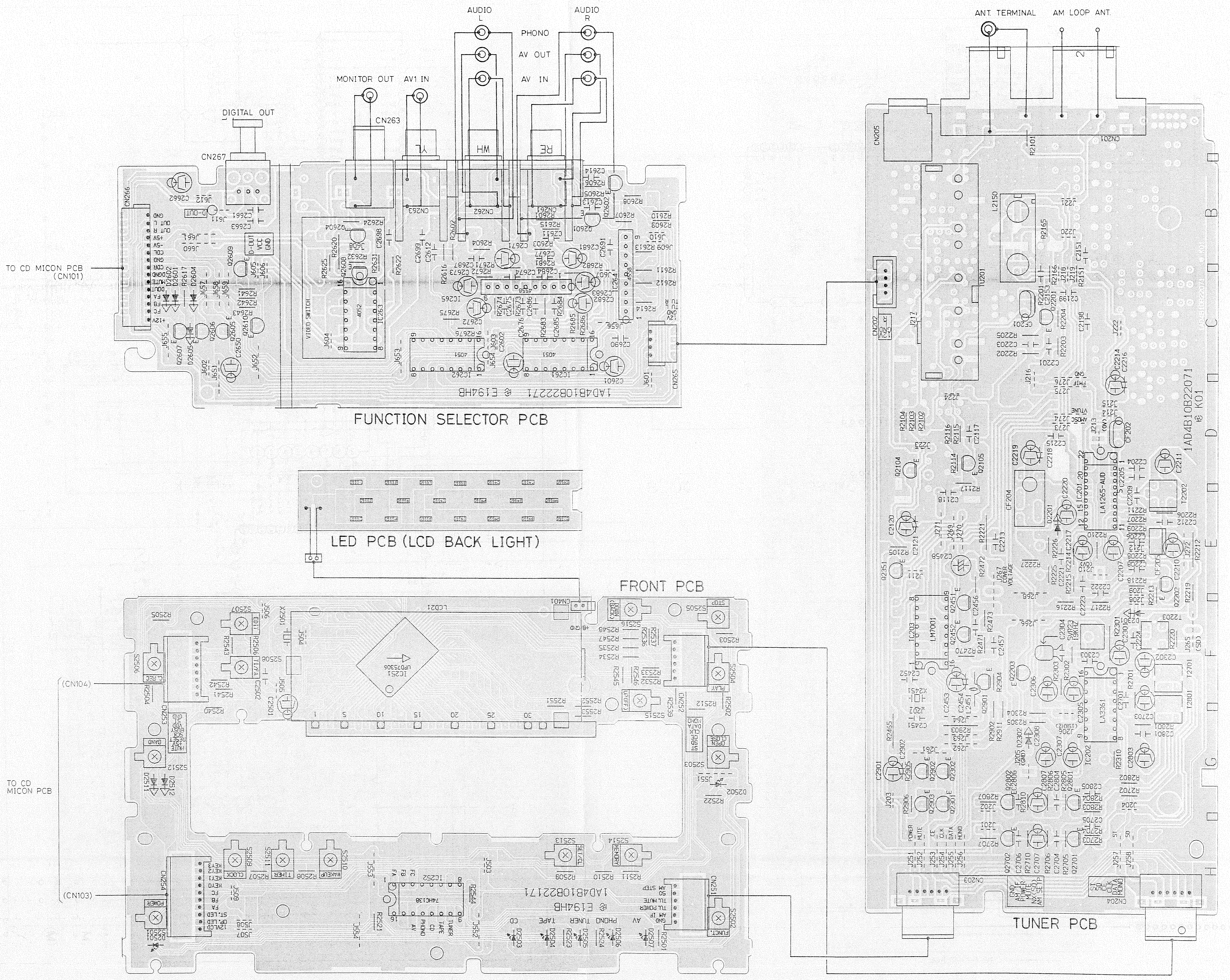
WIRING DIAGRAM (CD)


TO DECK/AMPLIFIER UNIT
MEMORY RESET
S1301
RESET
CN112
CN111
TO FUNCTION SELECTOR PCB (CN266)
CN115
CN116
E194HB
1AD4B10B22471
IC131
µPD75116
CD MICON PCB
CN114
CN113
(CN253)
(CN254)
TO FRONT PCB
P.T PCB
CN180
1AD4B10B22471
E194HB
135°C
P.T
115V
230V
AC
AC 50Hz
T1001
L1001
CN107
CD MECHANISM (PM-DAD EX21S)
LOADING & SLED MOTOR
SPINDLE MOTOR
PICKUP
T. COIL
F. COIL
CN103
CN102
CN101
CD MAIN PCB
1AD4B10B22571
E194HB
CN104
IC101 SSP LA9210
IC104 DSP
IC105 DAC SM5870DS
IC106 OP-AMP
IC102
SVR10
X101

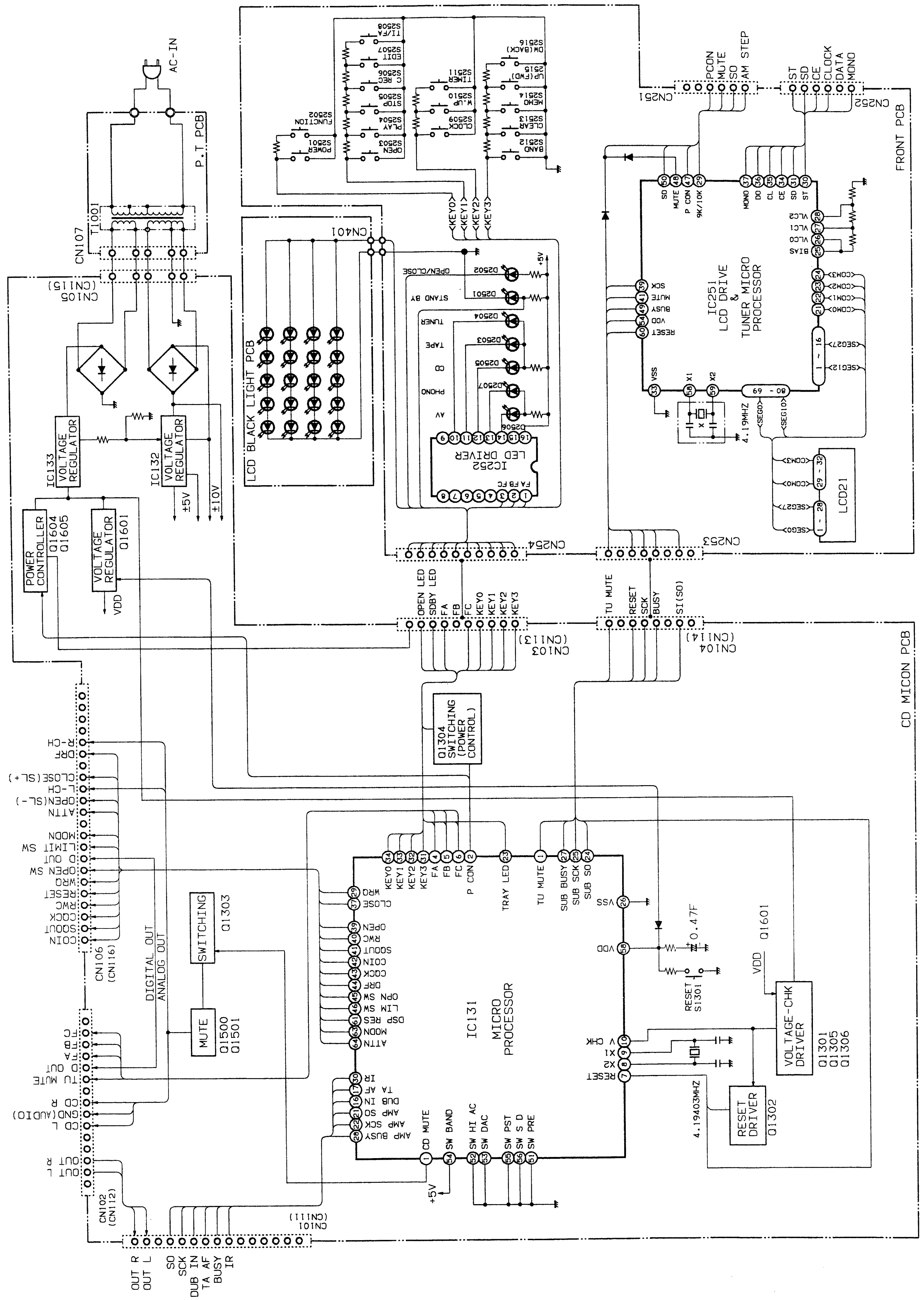
SCHEMATIC DIAGRAM (TUNER)


TU201
ANT
NC
AGC
GND
VT
+B
IF
OSC
CN201
ANT. TERMINAL
FM 75OHM
AM LOOP
R2101 3.3K
R2103 5.6K
R2102 6.8K
R2104 330
R2105 47K
Q2104 2SC3330U
R2115 33
R2116 33K
R2117 3.3K
R2114 56K
Q2105 2SC2999E
C2121 0.01
C2120 0.47/50
C2117 0.01
C2118 100P
CF201
CF202
R2203 330
R2204 1.8K
R2202 330
R2201 560
Q2201 2SC2999E
C2201 0.01
C2203 0.01
R2205 1.5K
R2151 10K
L2150
C2151 0.047
C2153 12P
R2165 4.7K
R2166 2.2M
C2199 0.01
C2198 0.01
IC201 LA1265
C2204 0.022
C2205 0.022
T2202
C2206 0.01
C2207 1/50
C2208 100P
CF205
C2209 0.01
R2209 100
C2210 0.47/50
C2211 100/16
C2212 0.01
R2206 10K
R2207 33K
R2208 3.3K
R2211 560K
R2212 150
R2213 1K
R2210 33K
C2215 0.022
C2214 10/16
C2213 0.01
CF204
R2214 22K
D2201 GMA01
C2220 4.7/25
R2226 2.2K
C2216 0.022
R2227 39K
R2225 6.8K
C2222 0.022
R2215 4.7K
C2222 0.047
C2223 0.01
R2216 56K
Q2202 2SC3330U
R2217 56K
R2218 12K
C2224 470P
T2203
C2217 10/16
C2219 10/16
C2218 1/50
Q2203 2SA608F
R2221 10K
R2220 150K
R2219 56K
C2458 1/50
R2472 1.5K
C2457 0.01
R2473 10K
Q2452 2SC1571F
Q2451 2SC1571F
R2471 2.2K
C2456 0.01
R2470 2.2K
IC203 LM7001
LW
AMIN
FMIN
VDD1
VDD2
PD1
PD2
VSS
MW
FM
SYC
DATA
CL
CE
XIN
XOUT
X2451 7.2M
C2452 24P
C2451 24P
Q2351 DTA114Y
R2465 33
Q2902 2SA608
R2905 100K
Q2302 DTA114Y
L2451 100U
Q2901 2SC3330
R2903 150
R2902 1K
R2906 10K
Q2903 DTC144E
Q2301 DTC144E
C2453 10/16
C2454 0.01
R2904 1K
R2901 15K
C2902 0.01
C2901 100/16
C2301 100/10
C2302 10/16
C2701 0.012
R2701 4.7K
R2801 4.7K
C2801 0.012
R2310 470
C2803 1/50
T2801
T2701
C2703 1/50
R2301 330
IC202 LA3361
C2303 0.022
C2305 0.47/50
C2306 1/50
R2303 1K
R2302 6.8K
SVR23 10K
C2304 1000P
D2301 GMA01
R2304 56K
C2307 1/50
D2302 GMA01
R2305 10K
C2308 1/50
R2702 12K
C2705 2200P
C2805 2200P
R2802 12K
R2703 12K
R2706 560K
C2704 470P
C2804 470P
R2803 12K
R2806 560K
R2705 270
R2805 270
R2704 2.2K
Q2701 2SC3330U
Q2801 2SC3330U
R2804 2.2K
C2707 1/50
C2706 4700P
C2806 4700P
C2807 1/50
R2710 100K
R2810 100K
Q2702 2SD1012G
Q2802 2SD1012G
R2707 3.3K
R2807 3.3K
VOLTAGE= FM 98MHZ / AM 999KHZ
GND
NC
POWER
MUTE
SO
AM STEP
CN203 TO FRONT PCB
ST
SD
CE
CLK
DATA
MONO
CN204 TO FRONT PCB
12V
GND
L
R
CN202 TO FUNCTION PCB

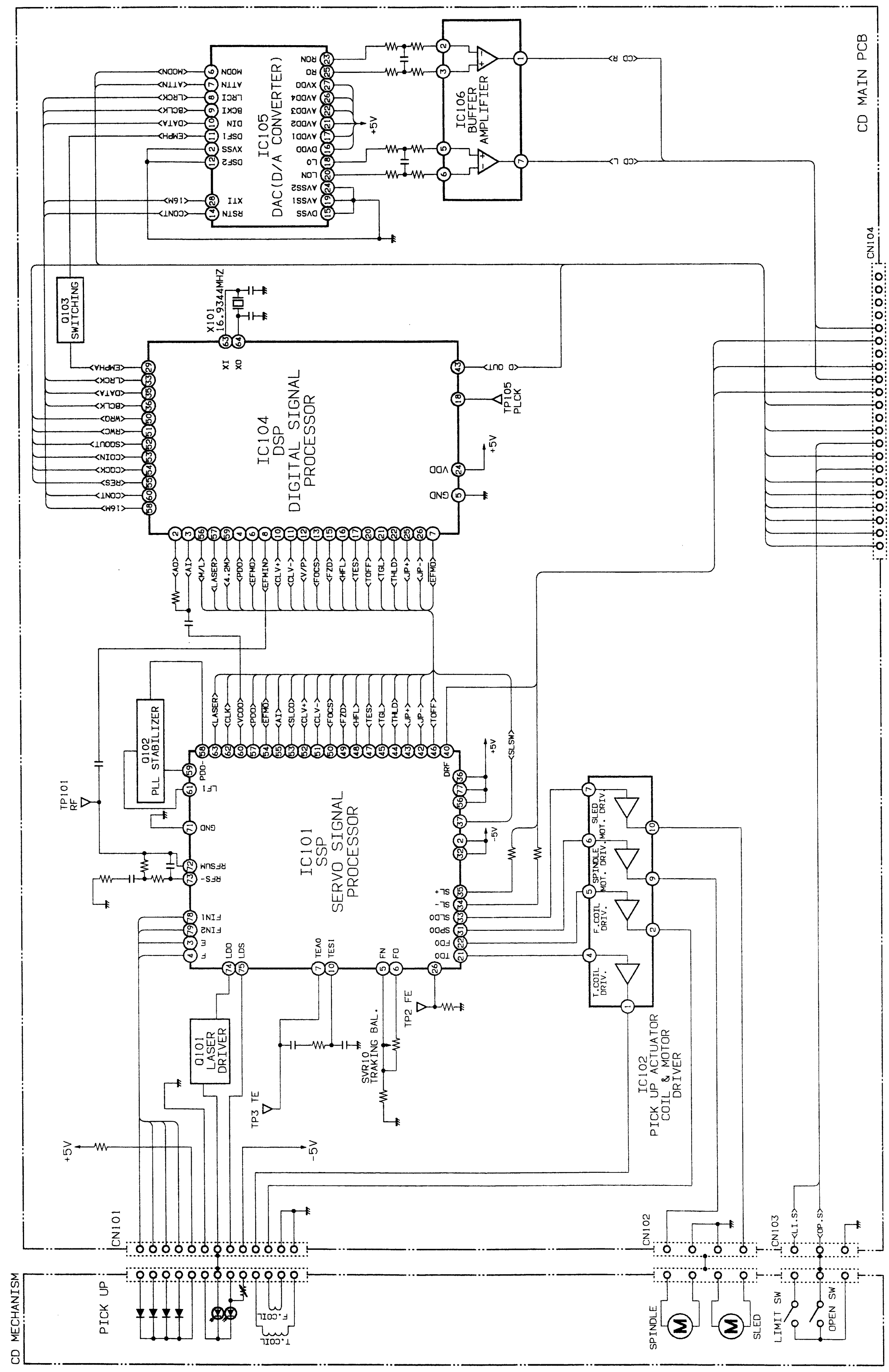
WIRING DIAGRAM (TUNER, FRONT & OTHER)


AUDIO L
AUDIO R
PHONO
AV OUT
AV IN
MONITOR OUT
AV1 IN
DIGITAL OUT
CN263
CN267
CN266
TO CD MICON PCB (CN101)
FUNCTION SELECTOR PCB
1AD4B10B22271 E194HB
LED PCB (LCD BACK LIGHT)
FRONT PCB
(CN104)
TO CD MICON PCB
(CN103)
1AD4B10B22171 E194HB
ANT. TERMINAL
AM LOOP ANT.
CN205
CN201
CN202
CN203
CN204
1AD4B10B22071 K01
TUNER PCB

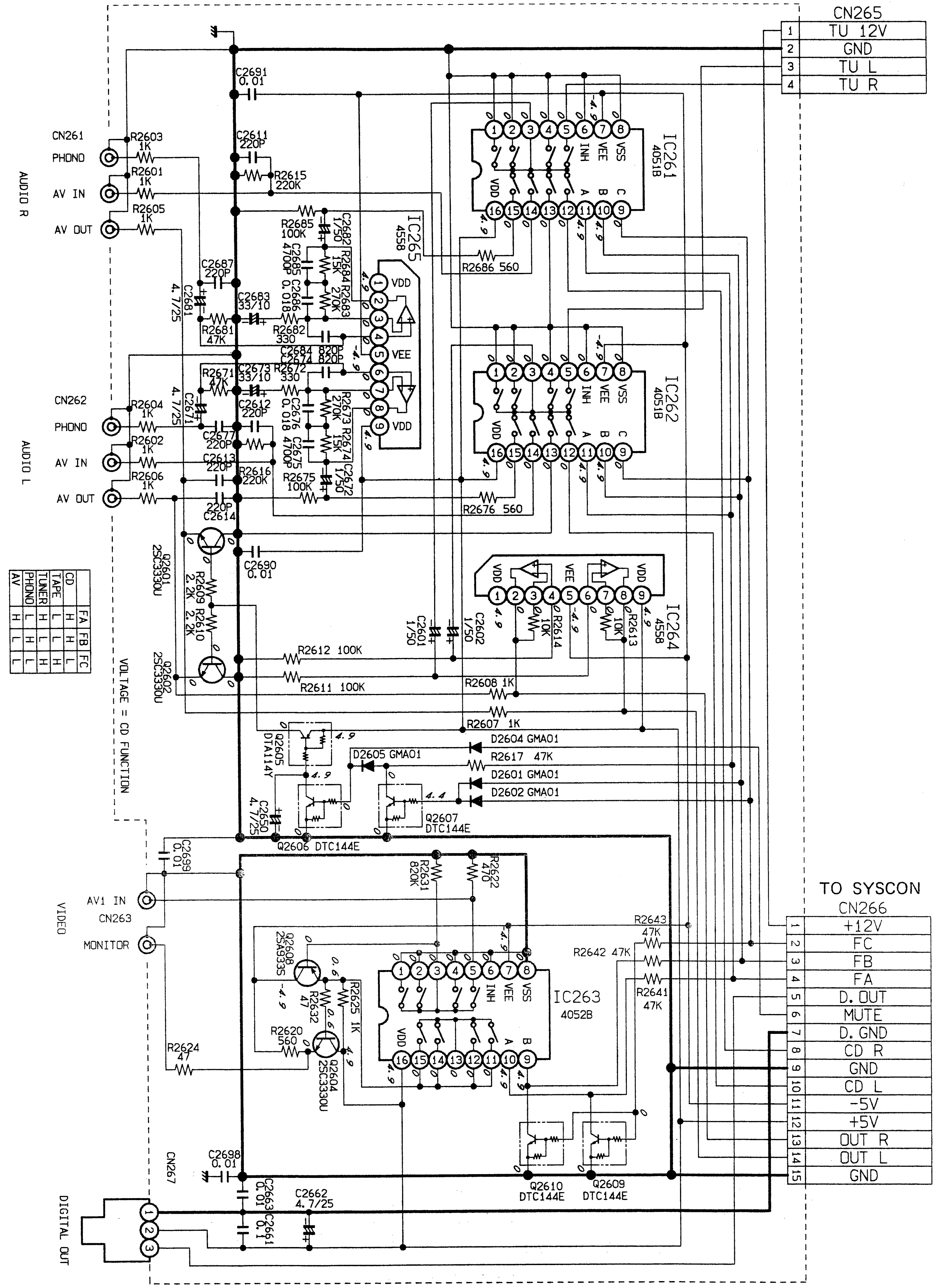
BLOCK DIAGRAM (SYSCON & FRONT)


AC-IN
P.T PCB
T1001
CN107
CN105 (CN115)
IC133 VOLTAGE REGULATOR
IC132 VOLTAGE REGULATOR
±5V
±10V
POWER CONTROLLER Q1604 Q1605
VOLTAGE REGULATOR Q1601
VDD
LCD BLACK LIGHT PCB
CN401
IC252 LED DRIVER
OPEN/CLOSE
STAND BY
TUNER
TAPE
CD
PHONO
AV
IC251 LCD DRIVE & TUNER MICRO PROCESSOR
4.19MHZ
LCD21
CN251
PCON
MUTE
SO
AM STEP
CN252
ST
SD
CE
CLOCK
DATA
MONO
FRONT PCB
CN254
CN253
OPEN LED
SDBY LED
FA
FB
FC
KEY0
KEY1
KEY2
KEY3
TU MUTE
RESET
SCK
BUSY
SI(SO)
CN103 (CN113)
CN104 (CN114)
Q1304 SWITCHING (POWER CONTROL)
CD MICON PCB
IC131 MICRO PROCESSOR
CD MUTE
SW BAND
SW HI AC
SW DAC
SW PST
SW S D
SW PRE
TRAY LED
TU MUTE
SUB BUSY
SUB SCK
SUB SO
VSS
VDD
V CHK
X1
X2
RESET
0.47F
RESET S1301
VDD Q1601
VOLTAGE-CHK DRIVER Q1301 Q1305 Q1306
4.19403MHZ
RESET DRIVER Q1302
SWITCHING Q1303
MUTE Q1500 Q1501
DIGITAL OUT
ANALOG OUT
CN106 (CN116)
CN102 (CN112)
CN101 (CN111)
+5V
R-CH
DRF
CLOSE(SL+)
L-CH
OPEN(SL-)
ATTN
MODN
LIMIT SW
OUT
OPEN SW
WRO
RESET
RWC
CCOK
SCOUT
COIN
C.D
OUT
TU MUTE
CD R
GND (AUDIO)
CD L
OUT R
OUT L
SO
SCK
DUB IN
TA AF
BUSY
IR

BLOCK DIAGRAM (CD MAIN)

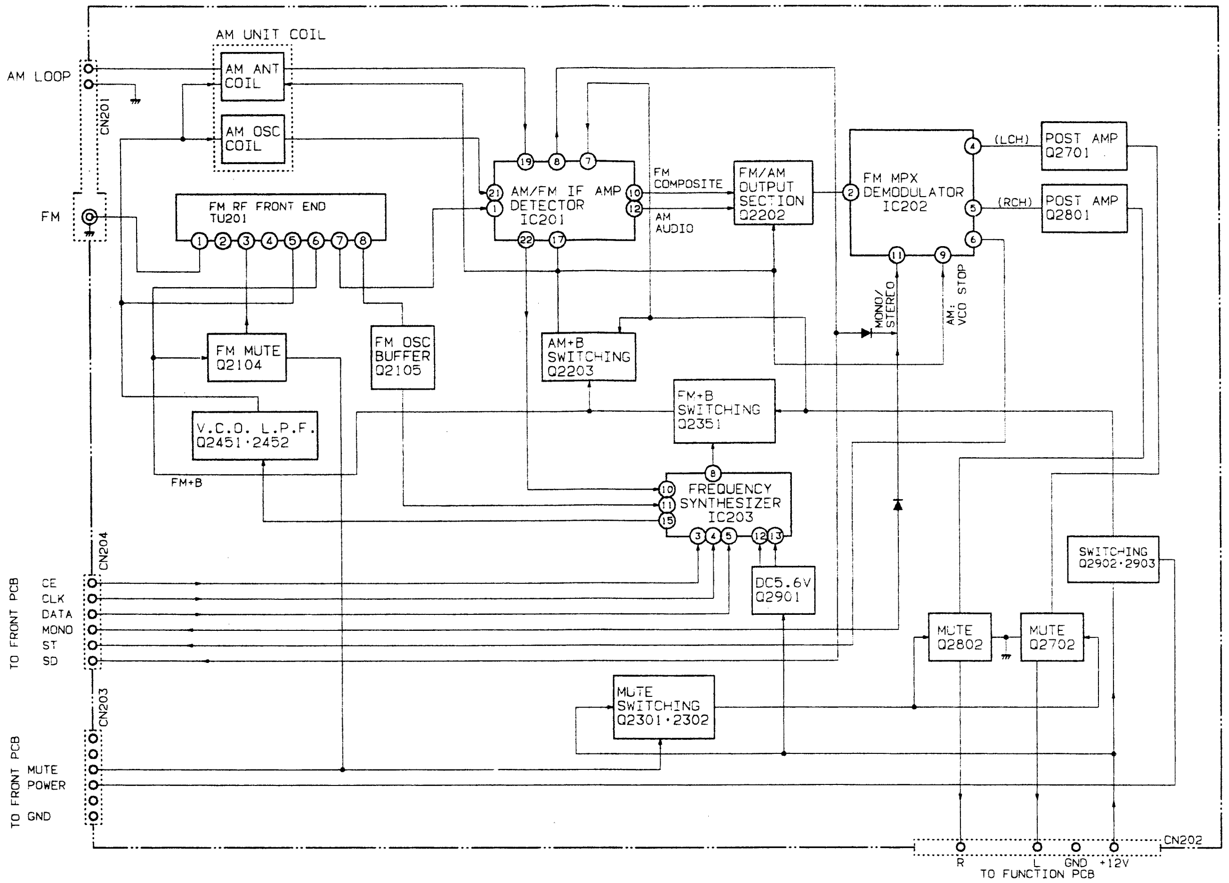

CD MAIN PCB
IC105 DAC (D/A CONVERTER)
IC106 BUFFER AMPLIFIER
CD R
CD L
+5V
Q103 SWITCHING
X101 16.9344MHZ
IC104 DSP DIGITAL SIGNAL PROCESSOR
XI
XO
CD OUT
TP105 PLCK
VDD
GND
CN104
TO SYSCON PCB
CD L
DRF
SL+
CD R
SL-
MODN
ATTN
LIMIT
OPEN
WRO
RESET
RWC
CCOK
SCOUT
COIN
Q102 PLL STABILIZER
TP101 RF
IC101 SSP SERVO SIGNAL PROCESSOR
TP2 FE
TP3 TE
SVR10 TRAKING BAL.
Q101 LASER DRIVER
IC102 PICK UP ACTUATOR COIL & MOTOR DRIVER
SLED MOT. DRIV.
SPINDLE MOT. DRIV.
F.COIL DRIV.
T.COIL DRIV.
+5V
-5V
CN101
CN102
CN103
CD MECHANISM
PICK UP
F.COIL
T.COIL
SPINDLE
SLED
LIMIT SW
OPEN SW

SCHEMATIC DIAGRAM (FUNCTION SELECTOR)

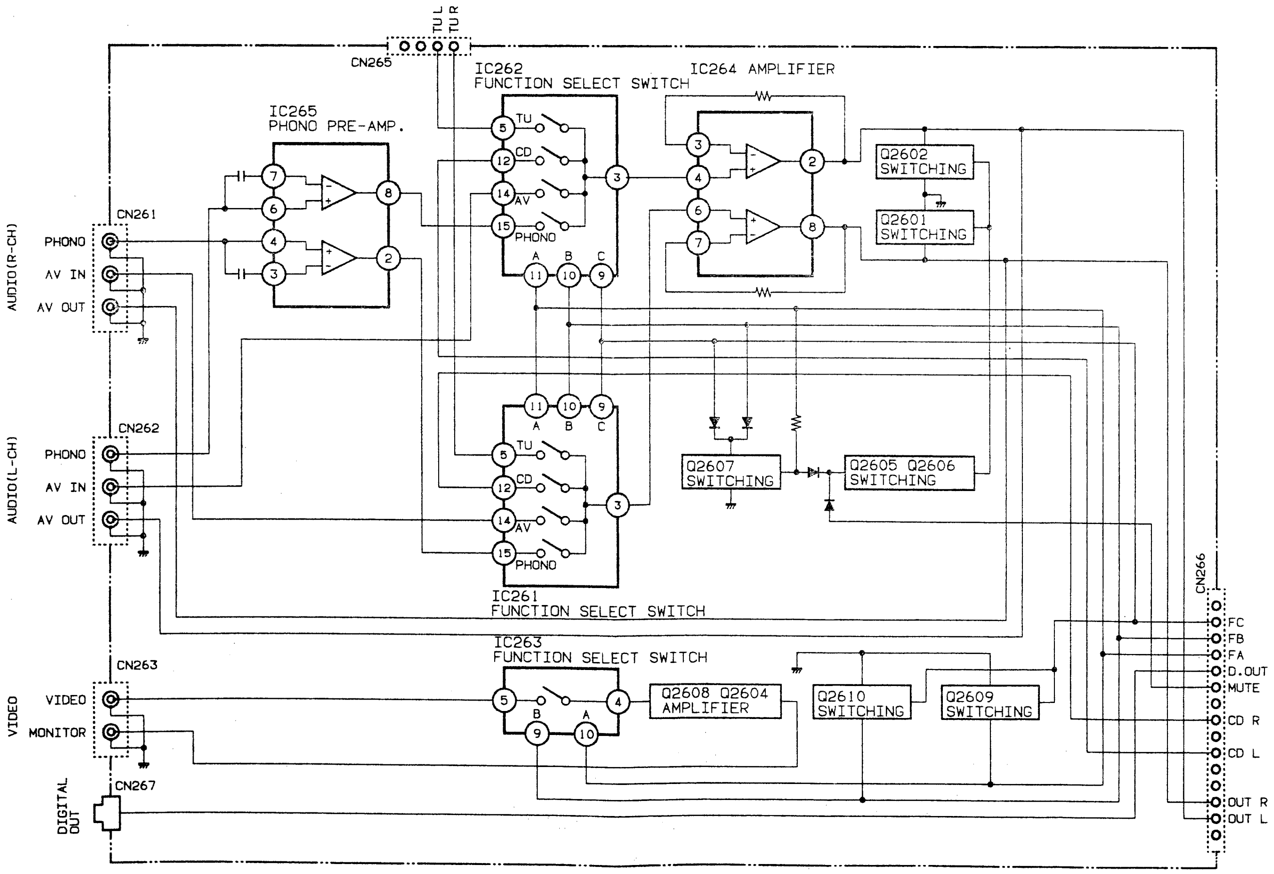

TO TUNER
CN265
1 TU 12V
2 GND
3 TU L
4 TU R
TO SYSCON
CN266
1 +12V
2 FC
3 FB
4 FA
5 D.OUT
6 MUTE
7 D.GND
8 CD R
9 GND
10 CD L
11 -5V
12 +5V
13 OUT R
14 OUT L
15 GND
CN261
PHONO
AV IN
AV OUT
AUDIO R
CN262
AUDIO L
AV1 IN
CN263
MONITOR
VIDEO
CN267
DIGITAL OUT
IC261 4051B
IC262 4051B
IC263 4052B
IC264 4558
IC265 4558
Q2601 2SC3330U
Q2602 2SC3330U
Q2603 2SA933S
Q2604 2SC3330U
Q2605 DTA114Y
Q2606 DTC144E
Q2607 DTC144E
Q2609 DTC144E
Q2610 DTC144E
D2601 GMA01
D2602 GMA01
D2604 GMA01
D2605 GMA01
VOLTAGE = CD FUNCTION

	FA	FB	FC
CD	H	H	L
TAPE	L	L	H
TUNER	H	L	H
PHONO	L	H	L
AV	H	L	L

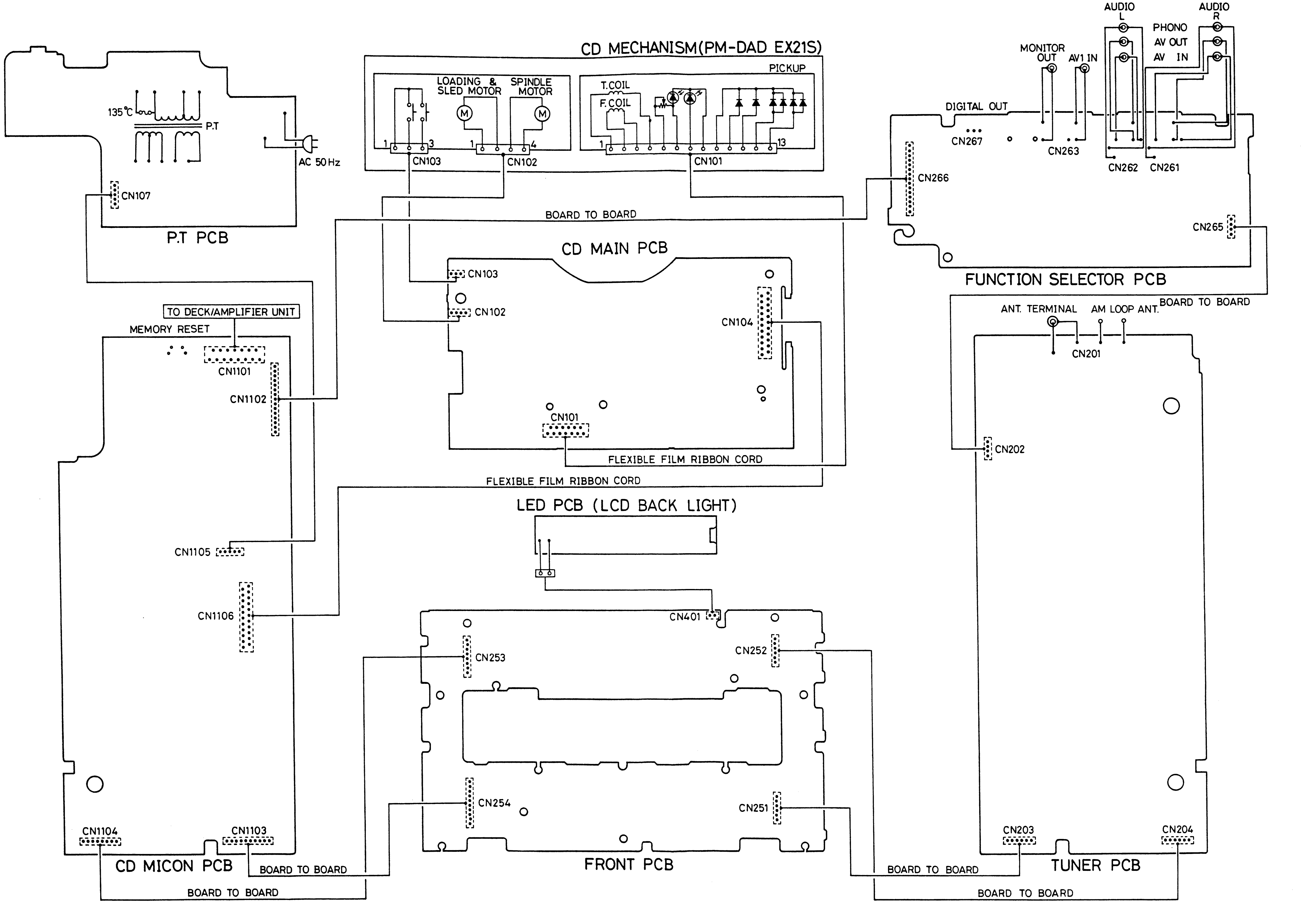
BLOCK DIAGRAM (TUNER)


AM UNIT COIL
AM LOOP
AM ANT COIL
AM OSC COIL
CN201
FM
FM RF FRONT END TU201
AM/FM IF AMP DETECTOR IC201
FM COMPOSITE
AM AUDIO
FM/AM OUTPUT SECTION Q2202
FM MPX DEMODULATOR IC202
(LCH)
(RCH)
POST AMP Q2701
POST AMP Q2801
MONO/STEREO
AM, VCO STOP
FM MUTE Q2104
FM OSC BUFFER Q2105
AM+B SWITCHING Q2203
FM+B SWITCHING Q2351
V.C.O. L.P.F. Q2451·2452
FM+B
FREQUENCY SYNTHESIZER IC203
DC5.6V Q2901
SWITCHING Q2902·2903
MUTE Q2802
MUTE Q2702
MUTE SWITCHING Q2301·2302
CN204
TO FRONT PCB
CE
CLK
DATA
MONO
ST
SD
CN203
MUTE
POWER
GND
CN202
R
L
GND
+12V
TO FUNCTION PCB

BLOCK DIAGRAM (FUNCTION SELECTOR)

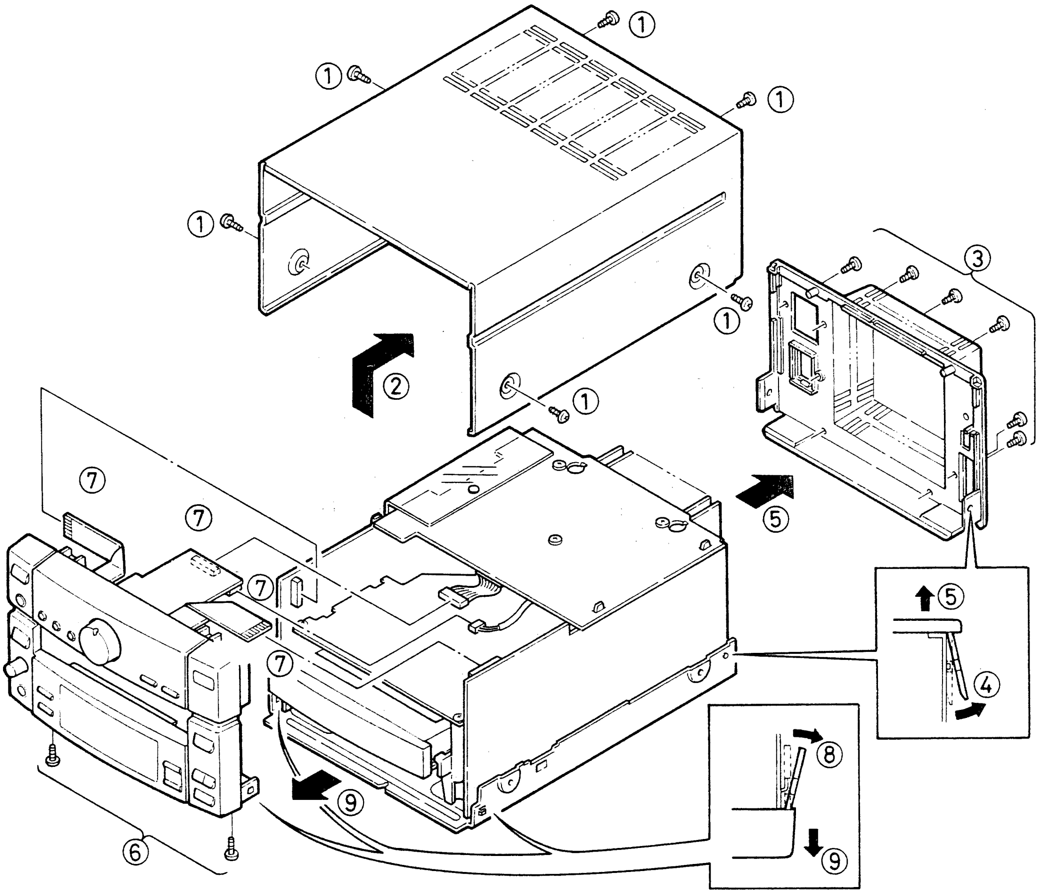

CN265
TU L
TU R
IC265 PHONO PRE-AMP.
IC262 FUNCTION SELECT SWITCH
IC264 AMPLIFIER
TU
CD
AV
PHONO
A
B
C
Q2602 SWITCHING
Q2601 SWITCHING
CN261
AUDIO(R-CH)
PHONO
AV IN
AV OUT
CN262
AUDIO(L-CH)
Q2607 SWITCHING
Q2605 Q2606 SWITCHING
IC261 FUNCTION SELECT SWITCH
IC263 FUNCTION SELECT SWITCH
CN263
VIDEO
MONITOR
Q2608 Q2604 AMPLIFIER
Q2610 SWITCHING
Q2609 SWITCHING
CN267
DIGITAL OUT
CN266
FC
FB
FA
D.OUT
MUTE
CD R
CD L
OUT R
OUT L

WIRING CONNECTION (TUNER / CD UNIT)

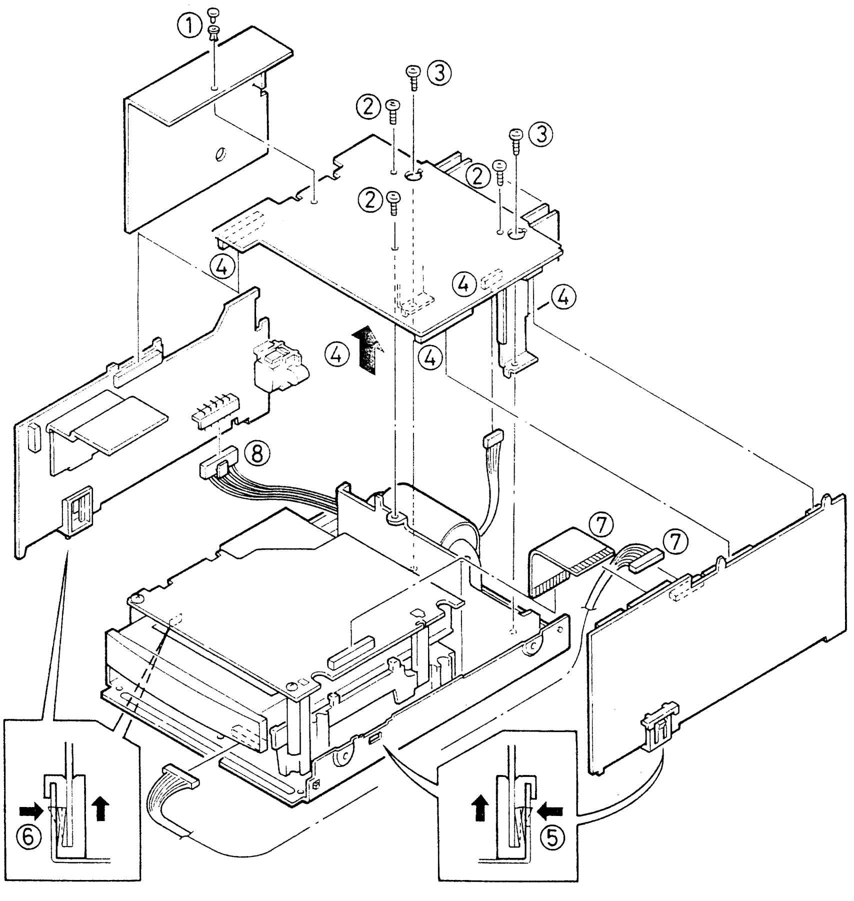

CD MECHANISM(PM-DAD EX21S)
LOADING & SLED MOTOR
SPINDLE MOTOR
M
M
PICKUP
T.COIL
F.COIL
1
3
1
4
1
13
CN103
CN102
CN101
135°C
P.T
AC 50Hz
CN107
P.T PCB
BOARD TO BOARD
CD MAIN PCB
CN103
CN102
CN104
CN101
FLEXIBLE FILM RIBBON CORD
FLEXIBLE FILM RIBBON CORD
AUDIO L
AUDIO R
PHONO
AV OUT
AV IN
MONITOR OUT
AV1 IN
DIGITAL OUT
CN267
CN263
CN262
CN261
CN266
CN265
FUNCTION SELECTOR PCB
BOARD TO BOARD
ANT. TERMINAL
AM LOOP ANT.
CN201
CN202
TO DECK/AMPLIFIER UNIT
MEMORY RESET
CN1101
CN1102
CN1105
CN1106
LED PCB (LCD BACK LIGHT)
CN401
CN253
CN252
CN254
CN251
FRONT PCB
CN1104
CN1103
CD MICON PCB
BOARD TO BOARD
BOARD TO BOARD
CN203
CN204
TUNER PCB
BOARD TO BOARD
BOARD TO BOARD

DISASSEMBLY

1. CABINET, FRONT & REAR PANEL

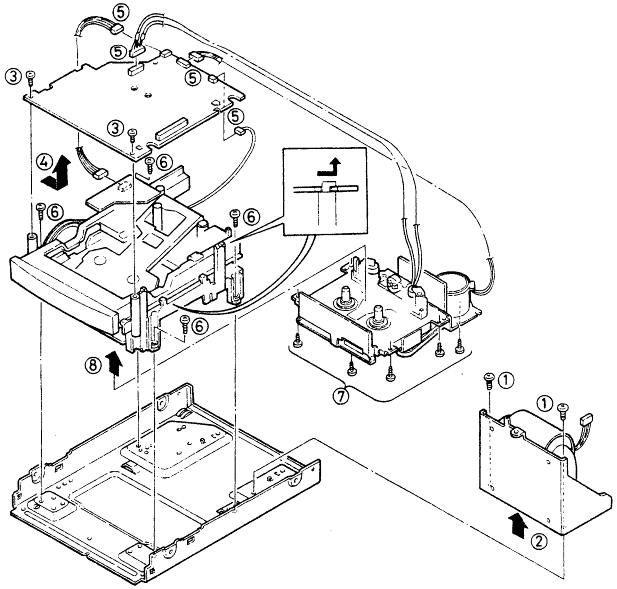

①
①
①
①
①
①
②
③
⑤
⑦
⑦
⑦
⑦
⑤
④
⑧
⑨
⑨
⑥

2. P. C. BOARD

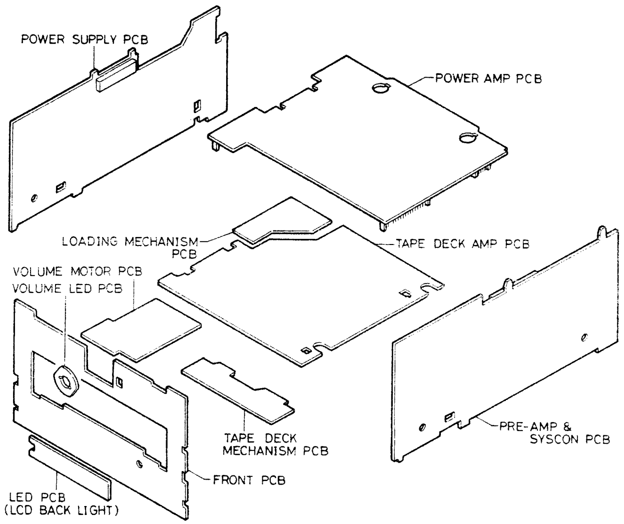

①
③
②
③
②
②
④
④
④
④
④
⑧
⑦
⑦
⑥
⑤

ISASSEMBLY

3. CD MECHANISM

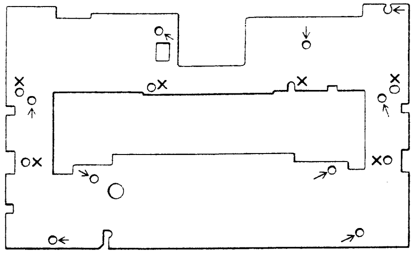

⑤
⑤
⑤
⑤
③
③
④
⑥
⑥
⑥
⑥
⑧
⑦
①
①
②

4. P. C. BOARD LAYOUT


POWER SUPPLY PCB
POWER AMP PCB
LOADING MECHANISM PCB
TAPE DECK AMP PCB
VOLUME MOTOR PCB
VOLUME LED PCB
TAPE DECK MECHANISM PCB
PRE-AMP & SYSCON PCB
FRONT PCB
LED PCB (LCD BACK LIGHT)

DISASSEMBLY

5. Front P.C.Board Fixing



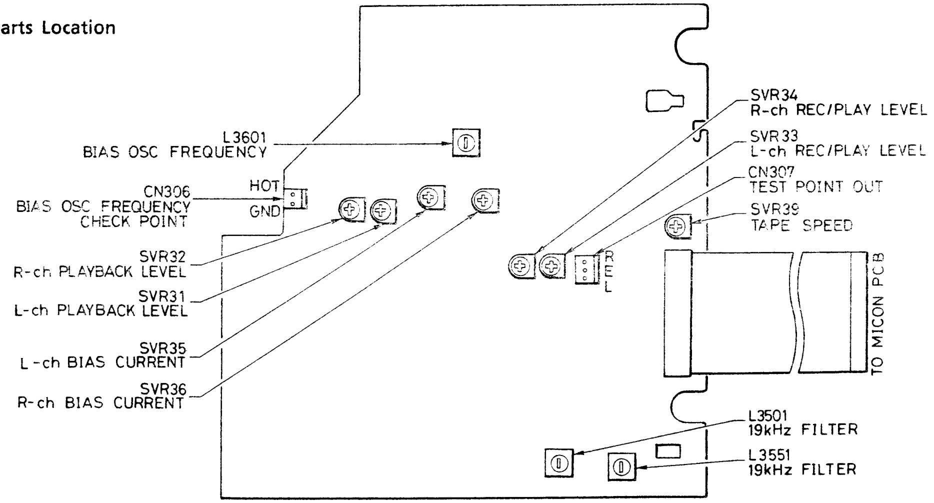
ADJUSTMENT (TAPE DECK)

1 Tape Deck Amplifier Adjustment

	ITEM	TEST TAPE	INPUT	DOLBY	OUTPUT	ADJUST POINT	REMARKS
1	HEAD AZIMUTH	MTT-114N	-----	OFF	TP OUT CN307	Azimuth Screw	Adjust screw so that 10kHz output become maximum. (Both Forward & Reverse)
2	TEPE SPEED	MTT-111N	-----	OFF	TP OUT CN307	SVR39	Adjust SVR so that Playback output become 3000Hz. (Near tape end)
3	PLAYBACK LEVEL	TCC-130	-----	OFF	TP OUT CN307	SVR31 (L-ch) SVR32 (R-ch)	Adjust SVR so that TEST POINT OUT output become 0.58V.
4	BIAS OSC	AC-224	105kHz	OFF	TP OSC CN306	L3601	Beat Cancel SW1 : Adjust 105 kHz Beat Cancel SW2 : Confirm 102 ± 2kHz
5	19KHZ FILTER	AC-224	19kHz ± 10Hz (-8dB)	OFF	TP OUT CN307	L3501 (L-ch) L3551 (R-ch)	Set frequency 400Hz output to 0dB. Adjust Coil so that 19kHz output become -30dB.
6	REC / PLAY FREQUENCY	AC-224	1kHz (-28dB) 10kHZ (-28dB)	ON	TP OUT CN307	SVR35 (L-ch) SVR36 (R-ch)	Set frequency 1kHz output to 0dB. Adjust SVR so that 10kHz output become +0dB.
7	REC / PLAY LEVEL	AC-224	1kHz (-8dB)	OFF	TP OUT CN307	SVR33 (L-ch) SVR34 (R-ch)	Adjust to obtain same output of 1kHz and 10kHz.

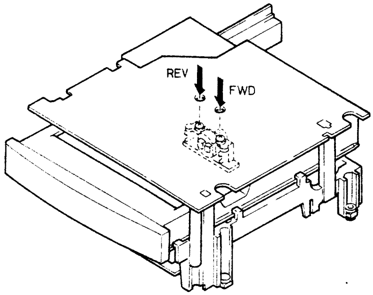
Note.
1. Head azimuth : Be sure both channels (L and R) are the same level and phase.
2. During adjustment measurement Beat cancel SW is at 1 condition fundamentally, confirm R / P frequency characteristic dolby effect also by 2 condition.

2 Parts Location

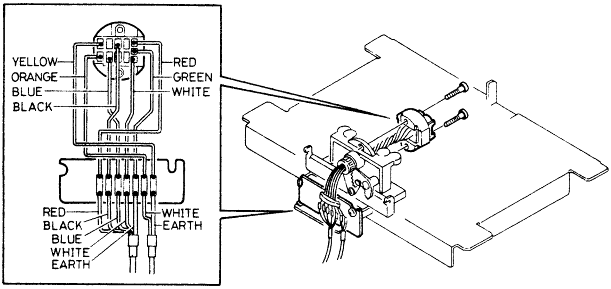

L3601
BIAS OSC FREQUENCY
CN306
BIAS OSC FREQUENCY CHECK POINT
HOT
GND
SVR32
R-ch PLAYBACK LEVEL
SVR31
L-ch PLAYBACK LEVEL
SVR35
L-ch BIAS CURRENT
SVR36
R-ch BIAS CURRENT
SVR34
R-ch REC/PLAY LEVEL
SVR33
L-ch REC/PLAY LEVEL
CN307
TEST POINT OUT
SVR39
TAPE SPEED
R
E
L
TO MICON PCB
L3501
19kHz FILTER
L3551
19kHz FILTER

ADJUSTMENT & TORQUE (TAPE DECK)

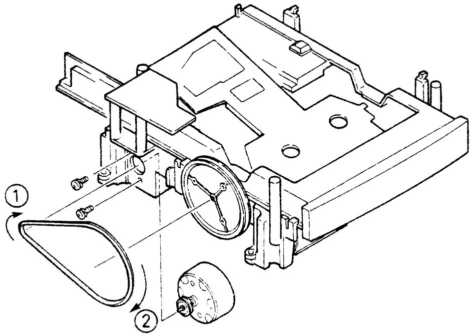
3 Head Azimuth Adjustment

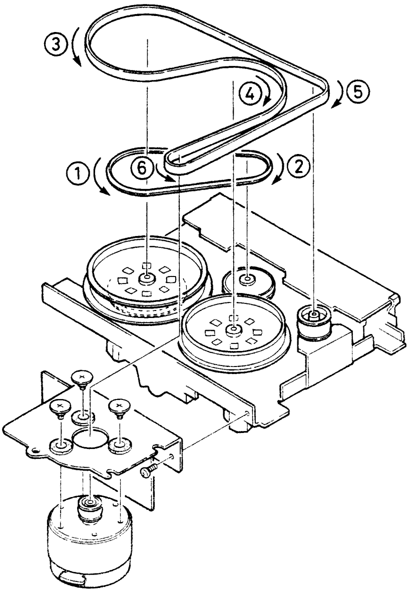


4 Head Replacement


YELLOW
ORANGE
BLUE
BLACK
RED
GREEN
WHITE
RED
BLACK
BLUE
WHITE
EARTH
WHITE
EARTH

5 Belt & Motor Replacement



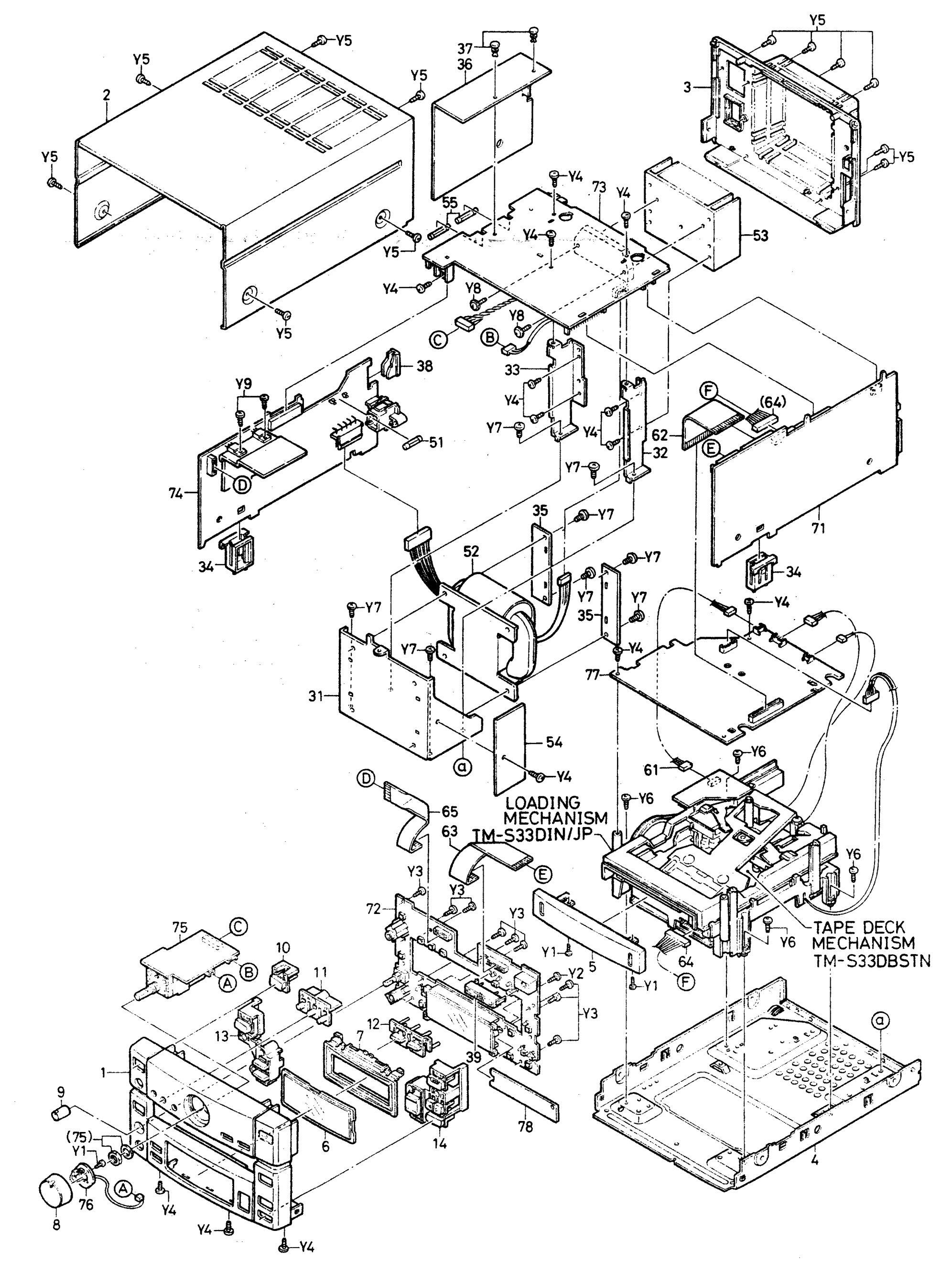


6 Checking the mechanism torques

ote : Clean the head, capstan and pinch roller before making any measurement.

ITEM	TAKE-UP TORQUE	BACK TENSION	TAPE TENSION
Test cassette	PLAY (FWD) : TW2111A PLAY (REW) : TW2121A F.FWD / REW : TW2231	PLAY (FWD) : TW2111A PLAY (REW) : TW2121A	Driving power cassette : PLAY (FWD) : TW-2412 PLAY (REW) : TW2422
PLAY	30~60gr.cm	2.0~5.0gr.cm	more than 80gr
F.FWD	70~140gr.cm	------	------
REW	70~140gr.cm	------	------

EXPLODED VIEW (TAPE DECK & AMPLIFIER UNIT)



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not list. To know those values, refer to the schematic diagram.

N.S.P : Not avairable as service parts.

CABINET

Ref. No.	Part No.	Description
1	614 241 8864	ASSY,PANEL,FRONT
2	614 238 7580	CABINET,TOP
3	614 241 8918	ASSY,PANEL,REAR
4	614 238 7603	CABINET,BOTTOM
5	614 238 7610	ESCUTCHEON,DECK TRAY
6	614 238 7696	WINDOW,LCD
7	614 238 7634	ESCUTCHEON,LCD WINDOW
8	614 238 7757	KNOB,ROTARY,MAIN VOL
9	614 238 7764	KNOB,ROTARY,MIC VOL
10	614 238 7825	BUTTON,DISPLAY
11	614 238 7818	BUTTON,SOUND STYLE
12	614 239 4236	ASSY,HINGE,D'BASS SURROUND
13	614 238 7535	ASSY,BUTTON,DOLBY
14	614 238 7542	ASSY,BUTTON,OPEN/CLOSE

CHASSIS

Ref. No.	Part No.	Description
31	614 238 7887	BRACKET-E,TRANS
32	614 238 7894	BRACKET-E,HEAT SHINK (L)
33	614 238 7900	BRACKET-E,HEAT SHINK (R)
34	614 238 7917	MOUNT-E,SIDE PCB FIX
35	⚠ 614 238 7962	PLATE,TRANS.
36	614 239 1297	SHEET,AMP PCB COVER
37	614 129 4667	FIXER,SHEET FIX
38	614 242 9495	COVER,SIDE PCB FIX
39	614 239 4694	REFRECTOR,LED
	614 129 9136	LUG,LEAD FIX
	614 129 4971	FIXER,LEAD RETAINER

FIXING PARTS

Ref. No.	Part No.	Description
Y1	411 021 1202	SCR S-TPG BIN 2X8
Y2	411 021 3107	SCR S-TPG BIN 2.6X8
Y3	411 099 2606	SCR S-TPG BIN 2.6X12
Y4	411 021 6405	SCR S-TPG BIN 3X8
Y5	411 021 3701	SCR S-TPG BIN 3X10
Y6	411 021 4005	SCR S-TPG BIN 3X12
Y7	411 001 4209	SCR S-TPG BIN 4X8
Y8	411 020 9407	SCR S-TPG BRZ+FLG 3X14
Y9	411 027 3101	SCR S-TPG BIN 3X8

ELECTRICAL PARTS

Ref. No.	Part No.	Description
51	⚠ 423 016 9704	FUSE 250V 0.5A,SUB,F4900
52	⚠ 614 241 9465	POWER TRANSFORMER,PT400
53	614 239 1266	HEAT SINK,HS400
54	614 243 7674	PCB,P.T SIDE,BARRIER
55	⚠ 423 016 7908	FUSE 250V 2.5A,F4700·F4800
61	614 243 6011	ASSY,CONNECTOR-S,4P,DECK-MECHA,CN302
62	614 239 5516	CORD,26P,MICON-DECK,CN402
63	614 239 5493	CORD,16P,FRONT-MICON,CN403
64	614 229 4550	ASSY,CONNECTOR-S,12P,MICON-MECHA,CN404
65	614 239 5509	CORD,11P,FRONT-PRI,CN414

SYSCON P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 241 8758	ASSY,PCB,MICON
C4752	403 139 9102	MT-POLYEST 0.082U J 63V
C4790	403 038 4505	ELECT 1000U M 6.3V
or	403 135 3302	ELECT 1000U M 6.3V
C4852	403 139 9102	MT-POLYEST 0.082U J 63V
CN401	614 227 2978	SOCKET,15P,S33DA-S33CT
CN402	614 241 6181	SOCKET,26P,MICOM-DECK
CN403	614 241 6082	SOCKET,16P,MICOM-FRONT
CN404	614 017 2638	PLUG,12P,TO TAPE MECHA
CN405	614 242 6692	SOCKET,20P,MICOM-POWER 1
CN406	614 226 0029	SOCKET,5P,MICOM-POWER 2
CN408	614 017 2249	PLUG,2P,START POINT
D4677	407 050 4703	ZENER DIODE GZA5.1X
D4678	407 050 3706	ZENER DIODE GZA4.7Y
D4687	407 050 3706	ZENER DIODE GZA4.7Y
D4688	407 050 4703	ZENER DIODE GZA5.1X
D4751	407 050 6707	ZENER DIODE GZA6.8Z
D4752	407 050 6707	ZENER DIODE GZA6.8Z
D4753	407 050 4703	ZENER DIODE GZA5.1X
D4754	407 050 4703	ZENER DIODE GZA5.1X
D4758	407 005 4505	DIODE DS442X
D4759	407 005 4505	DIODE DS442X
D4761	407 003 4507	DIODE DAP202K
D4762	407 005 4505	DIODE DS442X
D4763	407 005 4505	DIODE DS442X
D4764	407 050 5502	ZENER DIODE GZA5.6Y
D4765	407 005 4505	DIODE DS442X
D4766	407 004 9105	DIODE DSF10C
IC401	409 222 5709	IC MC14052BF
IC402	409 133 8103	IC NJM4558M-S
or	409 282 7507	IC RC4558M-S
IC403	409 133 8103	IC NJM4558M-S
or	409 282 7507	IC RC4558M-S
IC404	409 088 4007	IC LC7522
IC405	409 275 5107	IC BA3826S
IC406	409 198 7905	IC RC78L05A
or	409 039 9204	IC NJM78L05A
IC408	410 146 1500	IC UPD75512GF-144-3B9
IC411	409 122 6202	IC NJM7812FA
ICP412	⚠ 614 205 2914	IC PROTECTOR ICP-N25
L4751	614 028 4256	FILTER,100UH,CHOCK
Q3651	405 007 6701	TR 2SB598-F-NP
Q3652	405 007 6701	TR 2SB598-F-NP
Q3653	405 002 0308	TR 2SA1037K-R
Q3654	405 002 0308	TR 2SA1037K-R
Q4751	405 014 4509	TR 2SC2412K-R
Q4752	405 014 4509	TR 2SC2412K-R
Q4753	405 014 4509	TR 2SC2412K-R
Q4754	405 014 4509	TR 2SC2412K-R

PARTS LIST

Ref. No.	Part No.	Description
Q4755	405 014 4509	TR 2SC2412K-R
Q4756	405 014 4509	TR 2SC2412K-R
Q4757	405 014 4509	TR 2SC2412K-R
Q4791	405 014 4509	TR 2SC2412K-R
Q4851	405 014 4509	TR 2SC2412K-R
Q4852	405 014 4509	TR 2SC2412K-R
Q4853	405 014 4509	TR 2SC2412K-R
Q4854	405 014 4509	TR 2SC2412K-R
Q4855	405 014 4509	TR 2SC2412K-R
Q4856	405 014 4509	TR 2SC2412K-R
Q4857	405 014 4509	TR 2SC2412K-R
R4658	⚠ 402 041 4601	FUSIBLE RES 10 J- 1/4W
RA451	614 209 3696	RESISTOR,100K OHM X8
or	614 218 0464	RESISTOR,100K OHM X8
RA452	614 209 3696	RESISTOR,100K OHM X8
or	614 218 0464	RESISTOR,100K OHM X8
RA454	614 209 3733	RESISTOR,100K OHM X10
or	614 218 0488	RESISTOR,100K OHM X10
RA455	614 225 0679	RESISTOR,4.7K OHM X6
or	614 225 0693	RESISTOR,4.7K OHM X6
RA456	614 236 9852	RESISTOR,4.7K OHM X3
or	614 243 8053	RESISTOR,4.7K OHM X3
S461	614 221 8327	SWITCH,TACT,MEMORY RESET
S3601	614 012 4316	SWITCH,BEAT CANCEL
X4051	614 215 5561	RESONATOR,CERAMIC,4.19MHZ

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 241 8765	ASSY,PCB,FRONT
	614 238 3254	LCD(LIQUID CRUSTAL DISPLAY)
	614 238 8020	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
CN403	614 240 8315	SOCKET,16P,TO MICON PCB
CN414	614 227 7683	SOCKET,11P,TO PRI PCB
CN427	614 239 6193	JACK,MIC SOCKET,GOLD
CN428	614 239 6193	JACK,PHONES SOCKET,GOLD
D4605	407 003 4507	DIODE DAP202K
D4914	407 129 9608	LED SLR-40MC3F-P,D'BASS
or	407 129 9707	LED SLR-40MC3F-Q,D'BASS
D4915	407 129 9608	LED SLR-40MC3F-P,D'BASS
or	407 129 9707	LED SLR-40MC3F-Q,D'BASS
D4916	407 130 0007	LED SLC-40VC3F-N,SURR.
or	407 130 0106	LED SLC-40VC3F-P,SURR.
D4917	407 130 0007	LED SLC-40VC3F-N,SURR.
or	407 130 0106	LED SLC-40VC3F-P,SURR.
D4918	408 016 2306	LED SLR-40VC70F095-N
or	408 016 2405	LED SLR-40VC70F095-P
D4919	408 016 6700	LED SLR-34VC3F-M-C,REC/PAUS
or	408 016 6809	LED SLR-34VC3F-M-C,REC/PAUS
D4920	408 016 6908	LED SLR-34MC3F-P-C,FWD PLAY
or	408 016 7004	LED SLR-34MC3F-Q-C,FWD PLAY
D4921	408 016 6908	LED SLR-34MC3F-P-C,REV PLAY
or	408 016 7004	LED SLR-34MC3F-Q-C,REV PLAY
IC472	409 088 6209	IC LC7582
IC473	409 133 8103	IC NJM4558M-S
S4600	614 220 5556	SWITCH,TACT,OPEN/CLOSE
S4601	614 220 5556	SWITCH,TACT,AMSS/GEQ UP
S4602	614 240 4539	SWITCH,TACT,FWD PLAY
S4603	614 220 5556	SWITCH,TACT,STOP
S4604	614 240 4539	SWITCH,TACT,REV PLAY
S4605	614 220 5556	SWITCH,TACT,AMSS/GEQ DOWN
S4606	614 220 5556	SWITCH,TACT,REC/PAUSE
S4607	614 220 5556	SWITCH,TACT,REV.MODE
S4608	614 220 5556	SWITCH,TACT,DOLBY
S4609	614 220 5556	SWITCH,TACT,SOUND STYLE
S4610	614 220 5556	SWITCH,TACT,PRESET
S4611	614 220 5556	SWITCH,TACT,FREQ/MEMO
S4612	614 240 4539	SWITCH,TACT,D'BASS
S4613	614 240 4539	SWITCH,TACT,SURR.
S4614	614 220 5556	SWITCH,TACT,DISPLAY
S4900	614 208 1198	OPTO CONNECTOR,IR RECEIVER
VR401	614 239 4762	VR,ROTARY,MIC VOL

POWER AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 241 8772	ASSY,PCB,POWER AMP
	614 239 4090	ASSY,CONNECTOR-S,3P,L/R IN
C4301	403 062 5103	POLYESTER 5600P K 50V
C4351	403 062 5103	POLYESTER 5600P K 50V
C4905	403 194 3800	ELECT 2200U M 25V
C4918	403 200 0205	ELECT 2200U M 35V
C4919	403 200 0205	ELECT 2200U M 35V
CN405	614 242 6616	PLUG,20P,TO MICOM PCB
CN406	614 225 9894	SOCKET,5P,TO MICOM PCB
CN410	614 242 6609	PLUG,18P,TO PRI PCB 1
CN412	614 017 2126	PLUG,5P,TO PT SEC
CN413	614 217 2070	ASSY,CONNECTOR-S,9P,TO VOL
CN416	614 243 6547	SOCKET,4P,SPEAKER
CN426	614 020 1222	SOCKET,3P,L/E/R IN
D4600	407 007 9904	DIODE GMA01
D4601	407 007 9904	DIODE GMA01
D4602	407 007 9904	DIODE GMA01
D4604	407 053 5806	ZENER DIODE MTZ4.7B
D4900	⚠ 407 146 3009	DIODE DBF20C-K6
D4901	⚠ 407 004 9105	DIODE DSF10C
D4902	⚠ 407 004 9105	DIODE DSF10C
D4903	⚠ 407 004 9105	DIODE DSF10C
D4904	⚠ 407 004 9105	DIODE DSF10C
D4905	407 053 7602	ZENER DIODE MTZ6.8B
D4906	407 007 9904	DIODE GMA01
D4930	407 053 2607	ZENER DIODE MTZ10B
D4931	407 007 9904	DIODE GMA01
D4970	407 007 4505	DIODE DS442X
FCP418	⚠ 614 208 4540	FUSE HOLDER,FOR F4700
FCP419	⚠ 614 208 4540	FUSE HOLDER,FOR F4700
FCP420	⚠ 614 208 4540	FUSE HOLDER,FOR F4800
FCP421	⚠ 614 208 4540	FUSE HOLDER,FOR F4800
HS402	⚠ 614 121 5891	HEAT SINK,FOR IC493
IC470	409 018 4305	IC LA6458D
IC471	⚠ 409 101 9002	IC STK4122MK2
IC493	⚠ 409 001 7603	IC AN7812F
ICP492	⚠ 614 205 2921	IC PROTECTOR ICP-N38
Q4700	405 017 9709	TR 2SC3330-U
Q4701	405 004 5103	TR 2SA608-G-SPA
Q4702	405 017 9709	TR 2SC3330-U
Q4703	405 017 9709	TR 2SC3330-U
Q4704	405 017 9709	TR 2SC3330-U
Q4800	405 017 9709	TR 2SC3330-U
Q4801	405 004 5103	TR 2SA608-G-SPA
Q4802	405 017 9709	TR 2SC3330-U
Q4803	405 017 9709	TR 2SC3330-U
Q4804	405 017 9709	TR 2SC3330-U
Q4902	405 001 7001	TR 2SA1015-GR
Q4904	405 000 2205	TR DTA144ES
Q4910	405 075 8706	TR DTA123JS
R4719	401 008 7204	CARBON 2.2K JB 1/2W,F·PROOF
R4723	401 009 5506	CARBON 330 JB 1/2W,F.PROOF
R4725	401 010 5601	CARBON 5.6 JB 1/2W,F.PROOF
R4819	401 008 7204	CARBON 2.2K JB 1/2W,F.PROOF
R4823	401 009 5506	CARBON 330 JB 1/2W,F.PROOF
R4825	401 010 5601	CARBON 5.6 JB 1/2W,F. PROOF
R4900	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4901	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4906	⚠ 402 044 0907	FUSIBLE RES 1 J- 1/4W
R4907	⚠ 402 044 0907	FUSIBLE RES 1 J- 1/4W
R4912	⚠ 402 060 5306	RESISTOR 1 J- 1/2W
R4929	⚠ 402 049 5006	CARBON 560 J- 2W
R4930	⚠ 402 049 5006	CARBON 560 J- 2W
RE400	614 224 4531	RELAY,12V 2-MAKE,SPEAKER
or	614 242 7767	RELAY,12V 2-MAKE,SPEAKER

PARTS LIST

POWER SUPPLY P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 241 8789	ASSY,PCB,P.T-PRIMARY
C4900	⚠ 404 033 3401	CERAMIC 0.01U Z
CN410	614 242 6685	SOCKET,18P,PRI-MAIN PCB
CN414	614 241 6037	SOCKET,11P,TO FRONT
CN417	⚠ 614 239 4724	PLUG,2P,AC INLET
CN429	614 242 7248	PLUG,5P,AC FROM P.T
D4907	407 053 3703	ZENER DIODE MTZ15B
D4908	407 053 3703	ZENER DIODE MTZ15B
D4909	407 053 7602	ZENER DIODE MTZ6.8B
D4910	407 007 9904	DIODE GMA01
D4911	407 007 9904	DIODE GMA01
D4918	407 053 3307	ZENER DIODE MTZ12C
FCP422	⚠ 614 208 4540	FUSE HOLDER,FOR F4900
FCP423	⚠ 614 208 4540	FUSE HOLDER,FOR F4900
HS401	614 239 4687	HEAT SINK,FOR Q4900·Q4901
L4900	⚠ 614 229 0439	INDUCTOR,FERITE,AC LINE
Q4900	405 035 7206	TR 2SD1913-S
Q4901	405 007 2109	TR 2SB514-E
Q4903	405 001 7001	TR 2SA1015-GR
Q4911	405 007 3106	TR 2SB544-F-MP
R4924	⚠ 402 044 0907	FUSIBLE RES 1 J- 1/4W
RE900	⚠ 614 242 7750	RELAY,12V 1-MAKE,POWER

VOLUME MOTOR P.C.BOARD ASSY

Ref. No.	Part No.	Description
75	614 241 8796	ASSY,PCB,MAIN VOL
C4713	403 062 6209	POLYESTER 0.056U J 50V
C4813	403 062 6209	POLYESTER 0.056U J 50V
C4914	403 056 9506	POLYESTER 0.01U J 50V
C4915	403 086 2300	NP-ELECT 1U M 50V
CN411	614 017 2256	PLUG,3P,TO MAIN AMP
CN413	614 017 3888	PLUG,9P,TO MAIN AMP
CN415	614 017 3819	PLUG,2P,TO VOL LED
D4913	407 053 6407	ZENER DIODE MTZ5.1C
IC491	409 114 4803	IC LB1641
R4913	⚠ 402 004 4303	FUSIBLE RES 10 J- 1/4W
VR400	614 244 0186	VR,ROTARY,MAIN VOL

VOLUME LED P.C.BOARD ASSY

Ref. No.	Part No.	Description
76	614 241 8802	ASSY,PCB,VOL LED
	614 245 9058	ASSY,CONNECTOR-S,2P,TO MAIN VOL
D4923	408 014 3909	LED SLP-190B-14-AB-T1,VOL

DECK AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
77	614 241 8819	ASSY,PCB,DECK MAIN
C3608	403 082 5404	POLYPRO 8200P J 100V
C3688	403 082 3905	POLYPRO 680P J 100V
C3699	403 086 2607	NP-ELECT 1U M 50V
CN301	614 241 6181	SOCKET,26P,MICOM-DECK
CN302	614 017 3833	PLUG,4P,LOADING SW
CN303	614 017 2249	PLUG,2P,LOADING MOTOR
CN304	614 017 2263	PLUG,4P,TAPE MOTOR
CN305	614 017 2584	PLUG,7P,R/P & E.HEAD
CN306	614 016 4084	PLUG,2P,TEST POINT(E HEAD)
CN307	614 016 3858	PLUG,TEST POINT(OUT SIGNAL)
D3651	407 053 2607	ZENER DIODE MTZ10B
D3652	407 053 7008	ZENER DIODE MTZ6.2A
D3653	407 053 5806	ZENER DIODE MTZ4.7A
D3654	407 053 3406	ZENER DIODE MTZ13B
D3901	407 053 2508	ZENER DIODE MTZ10A
D3902	407 053 6803	ZENER DIODE MTZ5.6C
IC361	409 114 4803	IC LB1641
ICP362	⚠ 614 205 2891	IC PROTECTOR ICP-N15
ICP363	⚠ 614 205 2891	IC PROTECTOR ICP-N15
IC371	409 228 0302	IC M51167BFP
IC372	409 270 2101	IC HA12136AT
IC373	409 241 5308	IC BA3126N
L3501	614 228 8139	FILTER,LC,MPX
L3551	614 228 8139	FILTER,LC,MPX
L3601	614 243 1467	TRANS,OSC
L3701	614 202 8865	FILTER,REC PEAK
L3702	614 029 3166	MX COIL,TRAP
L3703	614 202 8827	FILTER,3.3MH
L3801	614 202 8865	FILTER,REC PEAK
L3802	614 029 3166	MX COIL,TRAP
L3803	614 202 8827	FILTER,3.3MH
Q3501	405 033 6805	TR 2SD1468S-S
Q3551	405 033 6805	TR 2SD1468S-S
Q3601	405 000 3400	TR DTC114TS
Q3602	405 000 3400	TR DTC114TS
Q3603	405 000 3400	TR DTC114TS
Q3604	405 000 3400	TR DTC114TS
Q3605	405 017 9709	TR 2SC3330-U
Q3606	405 025 0200	TR 2SD734-G
Q3607	405 018 0200	TR 2SC3331-U
Q3608	405 018 0200	TR 2SC3331-U
Q3609	405 004 5103	TR 2SA608-G-SPA
Q3610	405 000 3806	TR DTC114YS
Q3612	405 018 5403	TR 2SC3495
Q3651	405 007 6701	TR 2SB598-F-NP
Q3750	405 075 8409	TR DTC144TS
Q3751	405 075 8409	TR DTC144TS
Q3752	405 075 8409	TR DTC144TS
Q3753	405 075 8409	TR DTC144TS
Q3754	405 033 6805	TR 2SD1468S-S
Q3851	405 075 8409	TR DTC144TS
Q3852	405 075 8409	TR DTC144TS
Q3853	405 075 8409	TR DTC144TS
Q3854	405 033 6805	TR 2SD1468S-S
Q3901	405 018 0200	TR 2SC3331-U
R3609	⚠ 402 065 4601	FUSIBLE RES 12 J- 1/4W
R3901	⚠ 402 041 4601	FUSIBLE RES 10 J- 1/4W
R3905	⚠ 402 041 4601	FUSIBLE RES 10 J- 1/4W
SVR31	614 226 3792	POTENTIOMETER,220 OHM (B),PLAY GAIN ADJ
SVR32	614 226 3792	POTENTIOMETER,220 OHM (B),PLAY GAIN ADJ
SVR33	614 226 3884	POTENTIOMETER,6.8K OHM (B),REC GAIN ADJ
SVR34	614 226 3884	POTENTIOMETER,6.8K OHM (B),REC GAIN ADJ
SVR35	614 226 3945	POTENTIOMETER,68K OHM (B),BIAS ADJ

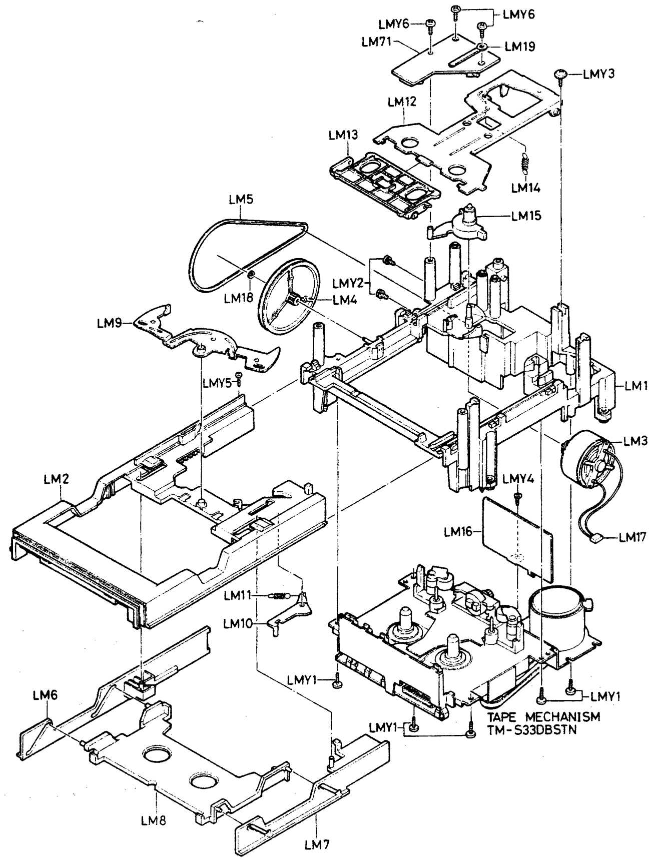
PARTS LIST

Ref. No.	Part No.	Description
SVR36	614 226 3945	POTENTIOMETER,68K OHM (B),BIAS ADJ
SVR39	614 226 3853	POTENTIOMETER,2.2K OHM (B),TAPE SPEED ADJ

LED (LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
79	614 239 0870	ASSY,PCB,LCD IND
CN401	614 229 0279	ASSY,CONNECTOR-S,2P
D4001	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4002	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4003	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4004	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4005	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4006	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4007	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4008	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4009	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4010	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4011	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4012	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4013	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4014	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4015	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4016	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4017	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4018	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4019	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E
D4020	407 150 1305	LED CL-170YG-CD-C
or	407 150 1404	LED CL-170YG-CD-D
or	407 150 1503	LED CL-170YG-CD-E

EXPLODED VIEW (TAPE LOADING MECHANISM)



PARTS LIST

TAPE LOADING MECHANISM (TM-S33DIN/JP)

Ref. No.	Part No.	Description
LM1	614 240 3310	ASSY,CHASSIS,LOADING BASE
LM2	614 237 4955	TABLE,LOADING,CASSETTE TRAY
LM3	614 240 3303	ASSY,MOTOR,TRAY DRIVE
LM4	614 237 4856	PULLEY,TRAY DRIVE
LM5	614 237 4863	BELT,SQUARE,PULLEY DRIVE
LM6	614 237 4931	SLIDE,RACK
LM7	614 237 4948	SLIDE,RACK ENGAGE
LM8	614 237 4924	PLATE,CASSETTE SUPPORT
LM9	614 237 4917	LEVER,RACK ENGAGE
LM10	614 237 4870	LEVER,LOCK
LM11	614 237 4979	SPRING,TENS,LOCK LVR PULL
LM12	614 237 4900	LEVER,CHACK LEVER
LM13	614 237 4894	LEVER,STABILIZER
LM14	614 237 4962	SPRING,TENS,CHACK LVR PULL
LM15	614 237 4887	LEVER,CHACK UP/DOWN
LM16	614 237 4795	SHIELD,HEAD SHIELD
LM17	614 239 5318	ASSY,CONNECTOR-S,2P,MOTOR
LM18	412 034 4709	SPECIAL WASHER,PULLEY FIX
LM19	614 129 9105	LUG,LEAD RETAINER

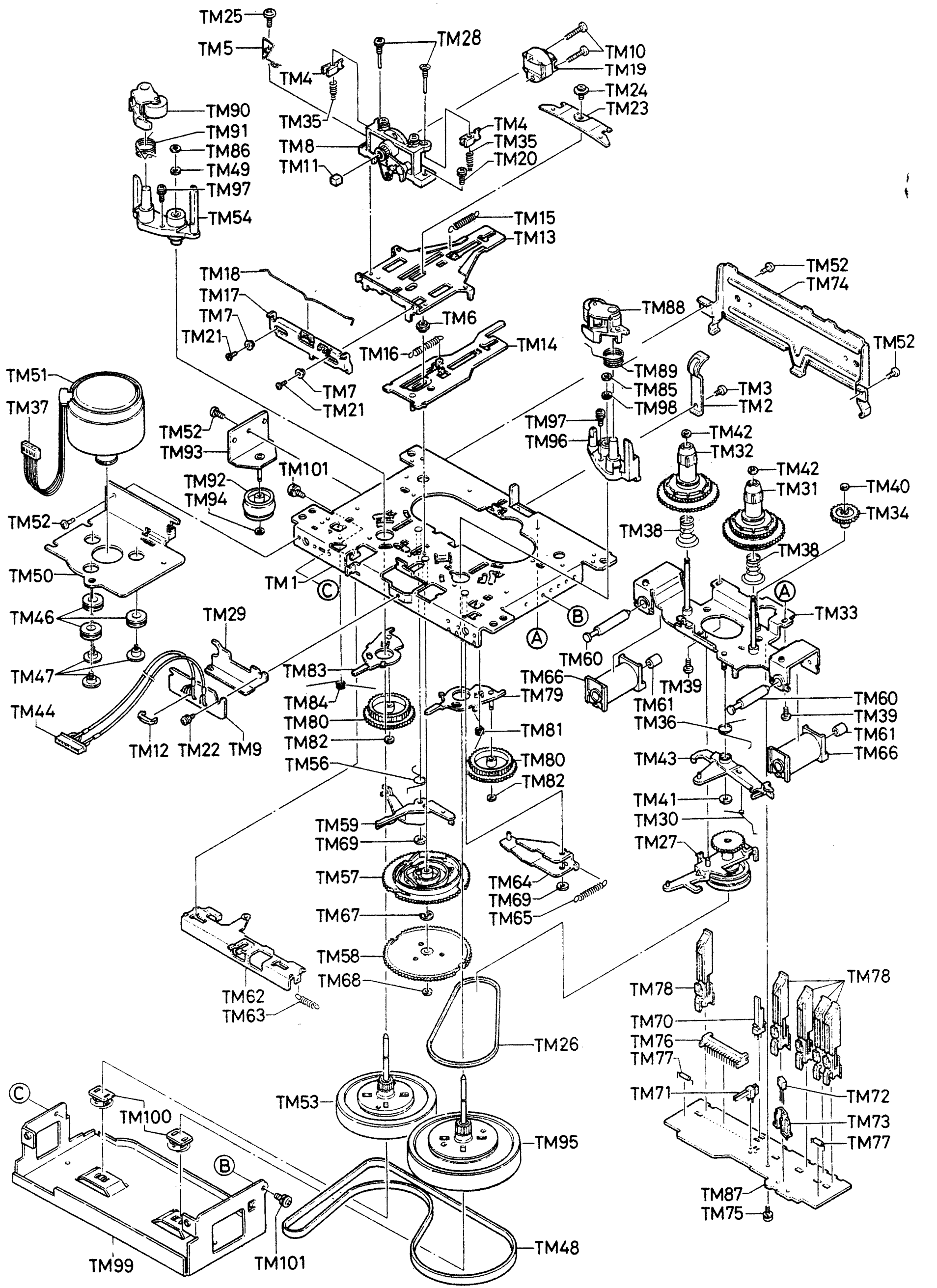
FIXING PARTS FOR TAPE LOADING MECHANISM

Ref. No.	Part No.	Description
LMY1	411 021 6405	SCR S-TPG BIN 3X8,BASE MECHA FIX
LMY2	411 124 6906	SCR PAN+W 2.6X4,MOTOR FIX
LMY3	411 020 8905	SCR S-TPG BRZ+FLG 3X10, CHACK LVR FIX
LMY4	411 028 2905	SCR S-TPG PAN 2X4,SHIELD
LMY5	411 022 6701	SCR S-TPG PAN 2X10,TRAY STOPP
LMY6	411 021 6405	SCR S-TPG BIN 3X8,PCB FIX

TAPE LOADING MECHANISM P.C.BOARD ASSY

Ref. No.	Part No.	Description
LM71	614 240 3273	ASSY,PCB,LOADING MECHA SW
CN302	614 017 3833	PLUG,4P,SWITCH LEAD OUT
S3601	614 224 2575	SWITCH,LEVER,TRAY OPEN
S3602	614 228 9792	SWITCH,LEVER,TRAY SET
S3603	614 224 2575	SWITCH,LEVER,TRAY CLOSE

EXPLODED VIEW (TAPE DECK MECHANISM)


TM25
TM5
TM4
TM28
TM10
TM19
TM24
TM23
TM90
TM91
TM86
TM49
TM97
TM54
TM35
TM8
TM11
TM4
TM35
TM20
TM15
TM13
TM18
TM17
TM7
TM21
TM6
TM16
TM14
TM88
TM52
TM74
TM52
TM7
TM21
TM89
TM85
TM98
TM3
TM2
TM51
TM37
TM52
TM93
TM101
TM97
TM96
TM42
TM32
TM92
TM94
TM42
TM31
TM40
TM34
TM52
TM50
TM38
TM38
TM1
Ⓒ
TM29
TM46
Ⓐ
Ⓑ
Ⓐ
TM33
TM47
TM44
TM12
TM22
TM9
TM83
TM84
TM80
TM82
TM56
TM60
TM66
TM79
TM81
TM80
TM82
TM39
TM61
TM36
TM60
TM39
TM61
TM66
TM43
TM41
TM30
TM27
TM59
TM69
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TM64
TM69
TM65
TM67
TM58
TM68
TM62
TM63
TM78
TM78
TM26
TM70
TM76
TM77
TM71
TM72
TM73
TM77
Ⓒ
TM100
TM53
Ⓑ
TM95
TM87
TM75
TM99
TM101
TM48

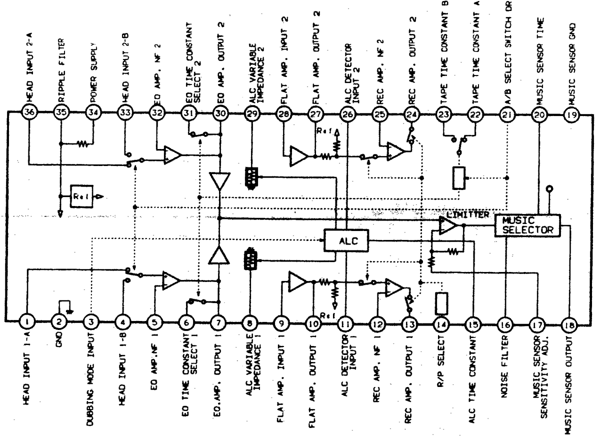
PARTS LIST

TAPE MECHANISM (TM-S33DBSTN)

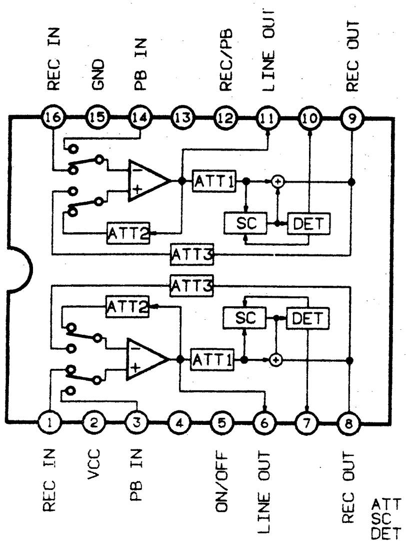
Ref. No.	Part No.	Description
TM1	614 206 2708	ASSY,CHASSIS,BASE
TM2	614 244 0759	PLATE,PACK SPRING
TM3	412 027 2606	SPECIAL SCREW,C TAPP M2X3
TM4	614 212 4451	GUIDE,TAPE
TM5	614 206 5105	SPRING,WIRE,CLUMP (V)
TM6	614 212 5991	COLLAR,PANEL
TM7	614 206 3118	COLLAR,CHANGE PLAY LEVER
TM8	614 229 1566	ASSY,BRACKET-E,HEAD BASE
TM9	614 206 1954	P.C.BOARD,RELAY BOARD
TM10	412 041 6505	SPECIAL SCREW,HEAD COLLAR
TM11	614 206 2937	SPACER,HEAD LEAD
TM12	614 206 2975	FIXER,WIRE CLAMP
TM13	614 206 3248	SLIDE,HEAD PANEL (A)
TM14	614 206 2821	ASSY,SLIDE,HEAD PANEL (B)
TM15	614 206 3286	SPRING,TENS,RC
TM16	614 206 3293	SPRING,TENS,PANEL
TM17	614 206 3194	LEVER,CHANGE PLAY
TM18	614 214 0970	SPRING,WIRE,PINCH ROLLER
TM19	614 237 8670	HEAD,R/P
TM20	412 032 2707	SPECIAL SCREW,TAMS M2X5
TM21	412 032 2806	SPECIAL SCREW,FOR CAMERA M1.7X3
TM22	412 032 2509	SPECIAL SCREW,S TAPP TAMS M2X5
TM23	614 215 7428	SPRING,PLATE,PANEL
TM24	412 032 3001	SPECIAL SCREW,CUPS TAPP M2X5
TM25	412 032 4800	SPECIAL SCREW,BAIND M2X5
TM26	614 206 4849	BELT,FLAT,REV/FWD
TM27	614 206 4436	ASSY,PULLEY,REV/FWD CLUTCH
TM28	412 034 0909	SPECIAL SCREW,GUIDE
TM29	614 206 5006	PLATE,SHIELD,HEAD
TM30	614 207 7993	SPRING,WIRE,P2
TM31	614 244 0483	ASSY,REEL,TAKE-UP,FWD
TM32	614 244 0490	ASSY,REEL,TAKE-UP,REV
TM33	614 206 4382	ASSY,BRACKET-M,REEL BASE
TM34	614 206 4658	GEAR,F.FWD
TM35	614 212 4529	SPRING,COMP,GUIDE
TM36	614 244 0766	SPRING,WIRE,FEV/RWD TRIGGER ARM
TM37	614 239 5295	ASSY,CONNECTOR-S,4P,TAPE MOTOR
TM38	614 206 3309	SPRING,COMP,BACK TENSION,REV
TM39	412 026 2003	SPECIAL SCREW,C TAPPING M2X4
TM40	412 013 4904	SPECIAL WASHER,PLASTIC CUT 1.2X3X0.25
TM41	412 013 7608	SPECIAL WASHER,PLASTIC CUT 2.1X5X0.5
TM42	412 032 3902	SPECIAL WASHER,HL CUT 1.4X3.2X0.4
TM43	614 220 8441	LEVER,REV/FWD TRIGGER ARM
TM44	614 239 5301	ASSY,CONNECTOR-S,9P,R/P & E HEAD LEAD
TM45	614 206 2951	CUSHION,MAT
TM46	614 206 2944	CUSHION,RUBBER,MOTOR
TM47	412 032 4008	SPECIAL SCREW,MOTOR COLLAR
TM48	614 229 1368	BELT,FLAT,MAIN
or	614 244 4078	BELT,FLAT,MAIN
TM49	412 032 5401	SPECIAL WASHER,HL CUT 1.55X3.5X0.5
TM50	614 243 9654	BRACKET-M,MOTOR
TM51	614 244 5204	ASSY,MOTOR,DRIVE
TM52	412 026 2003	SPECIAL SCREW,C TAPPING M2X4
TM53	614 244 3972	ASSY,FLYWHEEL,REV
TM54	614 247 3290	ASSY,BRACKET-E,FLYWHEEL METAL,REV
TM55	614 229 1320	CUSHION,RUBBER,MOTOR
TM56	614 206 3347	SPRING,WIRE,MAIN TRIGGER ARM
TM57	614 206 3002	GEAR,MAIN
TM58	614 206 3019	GEAR,REV/FWD CAM
TM59	614 206 3170	LEVER,MAIN TRIGGER ARM
TM60	614 206 2906	SHAFT,FOR PLUNGER
TM61	614 206 4627	HOLDER,FOR PLUNGER
TM62	614 206 2814	ASSY,SLIDE,CHANGE LEVER
TM63	614 206 3279	SPRING,TENS,CHANGE SLIDE LEVER
TM64	614 206 2807	ASSY,LEVER,PLAY KICK
TM65	614 215 7404	SPRING,TENS,PLAY KICK LEVER
TM66	614 206 3491	MAGNETIC COIL,SOLENOID
TM67	412 032 3100	SPECIAL WASHER,E RING D2.0
TM68	412 032 3209	SPECIAL WASHER,HL CUT 1.55X3.5X0.5
TM69	412 032 3308	SPECIAL WASHER,HL CUT 2.1X5X0.4
TM70	614 224 9246	SWITCH,LEAF,PLAY
TM71	614 224 9253	SWITCH,LEAF,FF/REW DETECT
TM72	409 128 5209	IC LB9051A,HALL ELEMENT
TM73	614 206 2968	HOLDER,IC PROTECTOR
TM74	614 206 3224	SLIDE,SWITCH PROTECTOR
TM75	412 032 2509	SPECIAL SCREW,S TAPP TAMS M2X5
TM76	614 017 3918	PLUG,12P,SYSCON PCB
TM77	407 004 9105	DIODE DSF10C
TM78	614 206 3538	SWITCH,LEAF,METAL·CRO2·PACK·ANTI-REC(FWD & REV)
TM79	614 207 2882	ASSY,LEVER,TRIGGER GEAR ARM,FWD
TM80	614 229 1344	GEAR,TRIGGER GEAR (A)
TM81	614 206 3323	SPRING,WIRE,TRIGGER GEAR ARM,FWD
TM82	412 013 4904	SPECIAL WASHER,PLASTIC,CUT 1.2X3X0.25
TM83	614 206 4467	ASSY,LEVER,TRIGGER GEAR ARM,REV
TM84	614 206 3330	SPRING,WIRE,TRIGGER GEAR ARM,REV
TM85	412 032 3506	SPECIAL WASHER,NYLON 2.1X3.5X0.5
TM86	412 027 9803	SPECIAL WASHER,NYLON 1.8X3.5X0.5
TM87	614 210 0257	P.C.BOARD,MECHANISM
TM88	614 212 7469	ASSY,PINCHROLLER,ARM,FWD
TM89	614 206 3354	SPRING,WIRE,P ARM,FWD
TM90	614 212 7476	ASSY,PINCHROLLER,ARM,REV
TM91	614 206 3361	SPRING,WIRE,P ARM,REV
TM92	614 243 9746	C PULLEY
TM93	614 244 0476	ASSY,BRACKET-M,C PULLEY
TM94	412 013 5000	SPECIAL WASHER,1.2X3.8X0.3
TM95	614 244 3965	ASSY,FLYWHEEL,FWD
TM96	614 247 3306	ASSY,BRACKET-E,FLYWHEEL METAL,FWD
TM97	412 032 3605	SPECIAL SCREW,S TAPP SCREW M2X6
TM98	412 032 3704	SPECIAL WASHER,HL WASHER CUT 1.8X4X0.5
TM99	614 244 4047	BRACKET-M,FLYWHEEL
TM100	614 244 4054	SUPPORT,FLYWHEEL
TM101	412 030 2501	SPECIAL SCREW,TAMS M2X5

IC BLOCK DIAGRAM (DECK)

IC371 M51167BFP (Tape Deck Amplifier System)

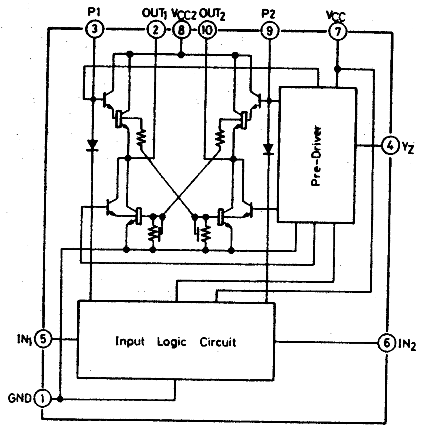

HEAD INPUT 2-A
RIPPLE FILTER
POWER SUPPLY
HEAD INPUT 2-B
EQ AMP. NF 2
EQ TIME CONSTANT SELECT 2
EQ AMP. OUTPUT 2
ALC VARIABLE IMPEDANCE 2
FLAT AMP. INPUT 2
FLAT AMP. OUTPUT 2
ALC DETECTOR INPUT 2
REC AMP. NF 2
REC AMP. OUTPUT 2
TAPE TIME CONSTANT B
TAPE TIME CONSTANT A
A/B SELECT SWITCH DRIVE
MUSIC SENSOR TIME
MUSIC SENSOR GND
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
Ref
ALC
LIMITTER
MUSIC SELECTOR
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
HEAD INPUT 1-A
GND
DUBBING MODE INPUT
HEAD INPUT 1-B
EQ AMP.NF 1
EQ TIME CONSTANT SELECT 1
EQ.AMP. OUTPUT 1
ALC VARIABLE IMPEDANCE 1
FLAT AMP. INPUT 1
FLAT AMP. OUTPUT 1
ALC DETECTOR INPUT 1
REC AMP. NF 1
REC AMP. OUTPUT 1
R/P SELECT
ALC TIME CONSTANT
NOISE FILTER
MUSIC SENSOR SENSITIVITY ADJ.
MUSIC SENSOR OUTPUT

IC372 HA12136A (Dolby-B Noise Reduction System)


REC IN
GND
PB IN
REC/PB
LINE OUT
REC OUT
16
15
14
13
12
11
10
9
ATT1
SC
DET
ATT2
ATT3
ATT3
ATT2
SC
DET
ATT1
1
2
3
4
5
6
7
8
REC IN
VCC
PB IN
ON/OFF
LINE OUT
REC OUT

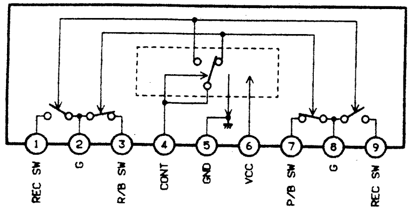
ATT ; ATTENUATOR
SC ; SIDE CHAIN
DET ; DETECTOR

IC361 LB1641 (Motor Driver)


P1
OUT1
VCC2
OUT2
P2
VCC
3
2
8
10
9
7
Pre-Driver
4
VZ
IN1 5
Input Logic Circuit
6 IN2
GND 1

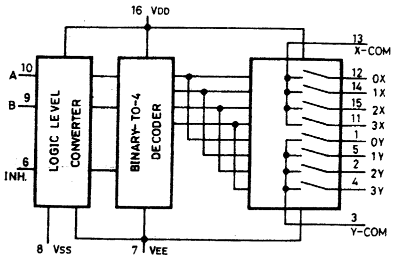
Input		Output		Action
IN_1	IN_2	OUT_1	OUT_2	
0	0	0	0	Brake
1	0	1	0	Normal(Reverse)Rotary
0	1	0	1	Reverse(Normal)Rotary
1	1	0	0	Brake

IC373 BA3126N (REC/PLAY Head Select Switch)


1
2
3
4
5
6
7
8
9
REC SW
G
R/B SW
CONT
GND
VCC
P/B SW
G
REC SW

IC BLOCK DIAGRAM (AMPLIFIER)

IC401 MC14052B (2-Input 4-Channel × 2 Multiplexer / De-Multiplexer)

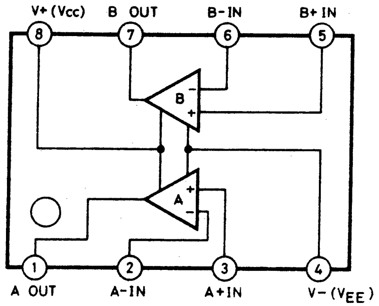

16 VDD
A 10
B 9
INH. 6
LOGIC LEVEL CONVERTER
BINARY-TO-4 DECODER
13 X-COM
12 0X
14 1X
15 2X
11 3X
1 0Y
5 1Y
2 2Y
4 3Y
3 Y-COM
8 VSS
7 VEE

TRUTH TABLE

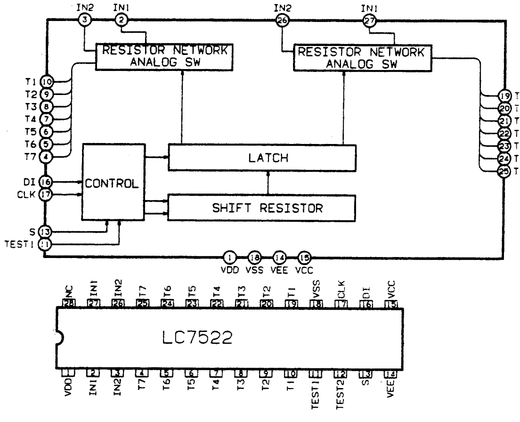
CONTROL INPUTS				(ON) CHANNEL	
INHIBIT	C	B	A	4051	4052
L	L	L	L	0	0X 0Y
L	L	L	H	1	1X 1Y
L	L	H	L	2	2X 2Y
L	L	H	H	3	3X 3Y
L	H	L	L	4	-----
L	H	L	H	5	-----
L	H	H	L	6	-----
L	H	H	H	7	-----
H	X	X	X	NONE	NONE

X : DON'T CARE　　C (4052) : EXCEPT

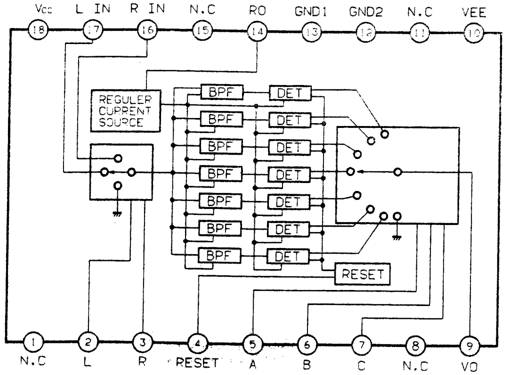
IC402 · 403 NJM4558M-S (Dual Operational Amplifier)


V+ (Vcc)
B OUT
B-IN
B+IN
8
7
6
5
B
A
1
2
3
4
A OUT
A-IN
A+IN
V- (VEE)

IC404 LC7522 (7-Segment Electronic Variable Resistor)

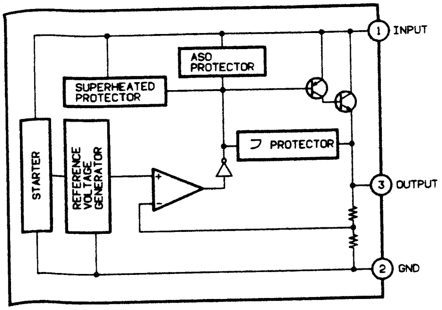

IN2
IN1
3
2
IN2
IN1
26
27
RESISTOR NETWORK ANALOG SW
RESISTOR NETWORK ANALOG SW
T1 10
T2 9
T3 8
T4 7
T5 6
T6 5
T7 4
19 T1
20 T2
21 T3
22 T4
23 T5
24 T6
25 T7
LATCH
DI 16
CLK 17
CONTROL
SHIFT RESISTOR
S 13
TEST1 11
1
18
14
15
VDD VSS VEE VCC
NC
IN1
IN2
T7
T6
T5
T4
T3
T2
T1
VSS
CLK
DI
VCC
28
27
26
25
24
23
22
21
20
19
18
17
16
15
LC7522
2
3
4
5
6
7
8
9
10
11
12
13
14
VDD
IN1
IN2
T7
T6
T5
T4
T3
T2
T1
TEST1
TEST2
S
VEE

IC405 BA3826S (Dual Operational Amplifier)

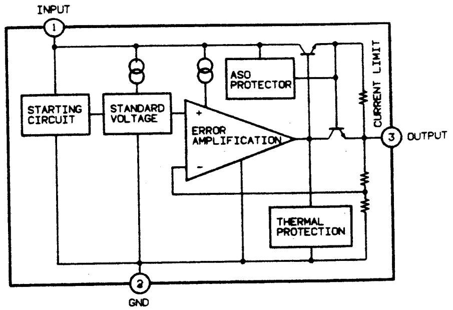

Vcc
L IN
R IN
N.C
RO
GND1
GND2
N.C
VEE
18
17
16
15
14
13
12
11
10
REGULER CURRENT SOURCE
BPF
DET
RESET
1
2
3
4
5
6
7
8
9
N.C
L
R
RESET
A
B
C
N.C
VO

BLOCK DIAGRAM (AMPLIFIER)

406 NJM78L05A (3-Terminal Voltage Regulator)



IC411 NJM7812FA (3-Terminal Voltage Regulator)



C408 µPD75512GF-144-3B9 (Micro Processor)

PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	ACTIV	P OFF
1	VO3826 P	AN0	Band Pass VO-IN from BA3826S	I	---	---
2	AVref	AVref	Reference Voltage of AD	I	---	---
3	VDD	VDD	+5V	---	---	---
4	VDD	(VPP)	+5V	---	---	---
5	PULLUP P	P113	Pull up Signal of AVref	O	H	H
6	RVOLDN P	P112	Rear Volume Down Signal	O	H	L
7	RVOLUP P	P111	Rear Volume Up Signal	O	H	L
8	SELCNT P	P110	Selection Control Signal	O	H	L
9	R3826 P	P103	Reset Control of BA3826S (SEL AV)	I/O	---	L
10	A3826 P	P102	Band Pass A Control of BA3826S (SEL PHON)	I/O	---	L
11	B3826 P	P101	Band Pass B Control of BA3826S (SEL CARA)	I/O	---	L
12	C3826 P	P100	Band Pass C Control of BA3826S (SEL USA)	I/O	---	L
13	VOLDN P	P93	Volume Down Signal (SEL VOL)	I/O	H	L
14	VOLUP P	P92	Volume Up Signal (SEL RVOL)	I/O	H	L
15	CK7522 P	P91	Equalizer Clock of LC7522 (SEL FADE)	I/O	---	L
16	DI7522 P	P90	Data In from LC7522 (SEL DOLC)	I/O	---	L
17	AMSS P	SI1 / P83	Input of Music Brank (Music Brank : L)	I	L	---
18	DA7582 P	S01 / P82	Data Signal to LC7582 (SEL FNC6)	O	H	L
19	CK7582 P	SCK1 / P81	Clock Signal to LC7582 (SEL S33)	O	H	L
20	MAINOF P	PPO / P80	Main Power Off Signal	I	H	L
21	PLAY SP	KR7 / P73	Play Detection Signal	I	L	---
22	FFREW SP	KR6 / P72	FF / REW Detection Signal	I	L	---
23	PACK SP	KR5 / P71	Pack Detection Signal	I	L	---
24	REEL P	KR4 / P70	Reel Rotate Detection Signal	I	---	---
25	GFOW SP	KR3 / P63	Forward Safety REC Detection Signal	I	L	---
26	GREV SP	KR2 / P62	Reverse Safety REC Detection Signal	I	L	---
27	CE7582 P	KR1 / P61	CE(Chip Enable) of LC7582 (SEL DECK)	I/O	L	L
28	KARAOK P	KR0 / P60	Karaoke Control Signal (LED) (DIGITAL ECHO)	O	H	L
29	MOTOR P	P53	Motor Control Signal	O	L : ON	Hi-imp
30	PLYSOL P	P52	Play Solenoid Control Signal	O	L : ON	Hi-imp
31	FRSOL P	P51	FF / REW Solenoid Control Signal	O	L : ON	Hi-imp
32	OPNIND P	P50	Open / Close Display (LED)	O	L : ON	Hi-imp
33	GND	VSS	Ground	---	---	---
34	SURR P	P43	Surround Control Signal (LED)	O	L	Hi-imp
35	BXPND P	P42	BASS Xpander Control Signal (LED)	O	L	Hi-imp
36	SPRY P	P41	Speaker Relay Control Signal	O	L	Hi-imp
37	PORY P	P40	Power Relay Control Signal	O	L	Hi-imp
38	RECIND P	P33 / MD3	Tape Record Indicator LED	O	L	H
39	REVIND P	P32 / MD2	Tape Reverse Indicator LED	O	L	H
40	FOWIND P	P31 / MD1	Tape Forward Indicator LED	O	L	H
41	VOLIND P	P30 / MD0	Volume Indicator LED	O	L	H
42	CSTOP P	P23 / BUZ	CD Stop Signal	O	H	L
43	DUB P	P22 / PCL	CD Dubbing Control Signal	O	H	L
44	MCCW P	P21	Loading Motor Control (Counter clock Wise) Signal	O	H	L
45	MCW P	P20 / PT00	Loading Motor Control (clock Wise) Signal	O	H	L
46	CLOSE SP	P13 / T10	Tape Tray Close Detection Signal	I	L	---

ACTIV : Active Level P OFF : Power Off Time Level

IC BLOCK DIAGRAM (AMPLIFIER)

PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	ACTIV	P OFF
47	SET SP	P12 / INT2	Cassette Set Detection Signal	I	L	---
48	OPEN SP	P11 / INT1	Tape Tray Open Detection Signal	I	L	---
49	IR P	P10 / INT0	Infrared Ray Receiving (Remocon) Signal	I	L : IN	---
50	CTDATA P	P03 / SI0	Data In from CT Micro Processor (µPD65117)	I	---	---
51	CTBUSY P	P02 / SO0	Busy Out to CT Micro Processor (µPD65117)	O	L	L
52	CTCLK P	P01 / SCK0	Clock In from CT Micro Processor (µPD65117)	I	---	---
53	PDOWN P	P00 / INT4	AC ON / OFF Detection Signal	I	H : ON	H
54	VSS	VSS	Ground	---	---	---
55	VSS	XT1	Not Used (VSS)	I	---	---
56	NC	XT2	Not Used (Open)	O	---	---
57	VSS	IC	Ground	---	---	---
58	X1	XI	X'tal In (4.19 MHz)	I	---	---
59	X2	XO	X'tal Out (4.19 MHz)	O	---	---
60	RESET	RESET	Reset	I	L	H
61	OSC P	P143	OSC Control Signal H : Off L : On	O	L	Hi-imp
62	DRP P	P142	Dolby Rec / Play Control Signal H : Rec L : Play	O	H	L
63	DBC P	P141	Dolby B / C Control Signal	O	---	Hi-imp
64	DONOF P	P140	Dolby ON / OFF Control Signal	O	---	Hi-imp
65	PMUTE P	P133	Play Mute Signal H : On L : Off	O	L	Hi-imp
66	RMUTE P	P132	Rec Mute Signal H : On L : Off	O	L	Hi-imp
67	MUTE P	P131	∞ Mute Signal H : On L : Off	O	L	Hi-imp
68	AMUTE P	P130	-20dB Mute Signal H : On L : Off	O	L	Hi-imp
69	MVCNT P	P123	Loading Motor Voltage Control Signal	O	L	Hi-imp
70	FUNCC P	P122	C Control Signal of Function IC	O	---	Hi-imp
71	FUNCB P	P121	B Control Signal of Function IC	O	---	Hi-imp
72	FUNCA P	P120	A Control Signal of Function IC	O	---	Hi-imp
73	A-VSS	AVSS	AD Ground	---	---	---
74	SEL GEQ	AN7 / P153	Selection Signal of Graphic Equalizer	I	---	---
75	HEAT P	AN6 / P152	Thermal Detection Signal	I	DC	---
76	VOLRDC P	AN5 / P151	DC of Rear Volume	I	DC	---
77	VOLDC P	AN4 / P150	DC of Volume	I	DC	---
78	ADKEY2	AN3	Key Switch 2	I	DC	---
79	ADKEY1	AN2	Key Switch 1	I	DC	---
80	ADKEY0	AN1	Key Switch 0	I	DC	---

ACTIV : Active Level P OFF : Power Off Time Level

TRUTH TABLE OF PORT FOR IC408 µPD75512 (Micro Processor)

Function Control

NAME	PORT	CD	TAPE	TUNER	AV1	AV2	PHONO
FUNC A	P120 (Pin 72)	H	L	H	L	H	H
FUNC B	P121 (Pin 71)	H	L	L	H	L	H
FUNC C	P122 (Pin 70)	L	H	H	L	L	L

H : HIGH L : LOW

Volume Control

NAME	PORT	POWER OFF	POWER ON	VOLUME UP	VOLUME DOWN
VOLUP	P92 (Pin 14)	LOW	HIGH	HIGH	LOW
VOLDN	P93 (Pin 13)	LOW	HIGH	LOW	HIGH

Amplifier Control

NAME	PORT	HIGH	LOW
PORY	P40 (Pin 37)	POWER RELAY OFF	POWER RELAY ON
SPRY	P41 (Pin 36)	SPEAKER RELAY OFF	SPEAKER RELAY ON
MUTE	P131 (Pin 67)	∞ MUTING ON	∞ MUTING OFF
AMUTE	P130 (Pin 68)	-20dB MUTING ON	-20dB MUTING OFF
BXPND	P42 (Pin 35)	BASS XPANDER OFF	BASS XPANDER ON
SURR	P43 (Pin 34)	SURROUND OFF	SURROUND ON
KARAOK	P60 (Pin 28)	KARAOKE PON ON	KARAOKE PON OFF

Dolby Control

NAME	PORT	DOLBY OFF	DOLBY B	DOLBY C
DONOF	P140 (Pin 64)	LOW	HIGH	HIGH
DBC	P141 (Pin 63)	HIGH	LOW	HIGH

BA3826S Band Pass A · B · C Signal Control

A3826	P102 (Pin 10)	H	L	H	L	H	L	H	L
B3826	P101 (Pin 11)	H	H	L	L	H	H	L	L
C3826	P101 (Pin 12)	H	H	H	H	L	L	L	L
VO3826	AN0 (Pin 1)	O	f1 60	f2 150	f3 400	f4 1K	f5 2.4K	f6 6K	f7 15K

H : HIGH L : LOW

Reset signal discharge peak hold that rectified at reset signal is high level.

Tape Control

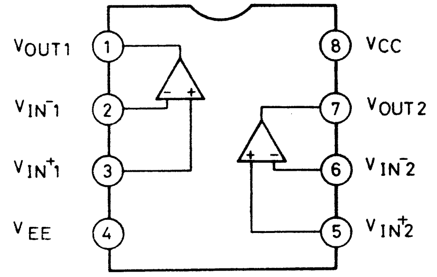
NAME	PORT	HIGH	LOW
PMUTE	P133 (Pin 65)	PLAY MUTING OFF	PLAY MUTING ON
RMUTE	P132 (Pin 66)	REC MUTING OFF	REC MUTING ON
OSC	P143 (Pin 61)	OSC CIRCUIT OFF	OSC CIRCUIT ON
DRP	P142 (Pin 62)	DOLBY PLAY-BACK	DOLBY RECORD

Tape Mode Control

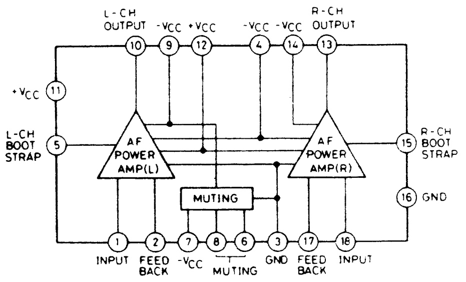
MODE	PMUTE	RMUTE	OSC	DRP
STOP	HIGH	HIGH	HIGH	LOW
PLAY	LOW	HIGH	HIGH	LOW
REC PAUSE	LOW	HIGH	LOW	HIGH
RECORD	LOW	LOW	LOW	HIGH
DUBBING	LOW	LOW	LOW	LOW

IC BLOCK DIAGRAM (AMPLIFIER)

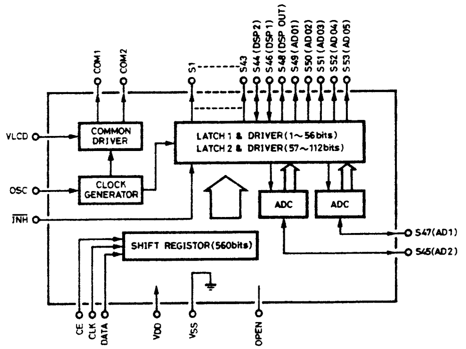
IC470 LA6458D (Dual Operational Amplifier)


VOUT1
VIN-1
VIN+1
VEE
VCC
VOUT2
VIN-2
VIN+2
1
2
3
4
5
6
7
8

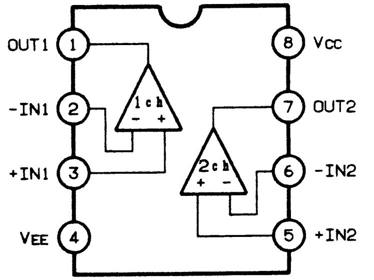
IC471 STK4122MKII (AF Power Amplifier)


L-CH OUTPUT
-VCC
+VCC
-VCC
-VCC
R-CH OUTPUT
+VCC
L-CH BOOT STRAP
AF POWER AMP(L)
AF POWER AMP(R)
MUTING
R-CH BOOT STRAP
GND
INPUT
FEED BACK
-VCC
MUTING
GND
FEED BACK
INPUT

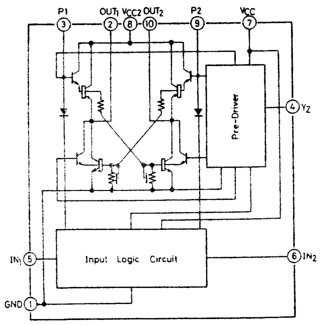
IC472 LC7582 (LCD Driver)


COM1
COM2
S1
S43
S44 (DSP2)
S46 (DSP1)
S48 (DSP OUT)
S49 (AD01)
S50 (AD02)
S51 (AD03)
S52 (AD04)
S53 (AD05)
VLCD
OSC
INH
COMMON DRIVER
CLOCK GENERATOR
LATCH 1 & DRIVER (1~56bits)
LATCH 2 & DRIVER (57~112bits)
ADC
ADC
SHIFT REGISTOR (560bits)
S47(AD1)
S45(AD2)
CE
CLK
DATA
VDD
VSS
OPEN

IC473 NJM4558M-S (Dual Operational Amplifier)

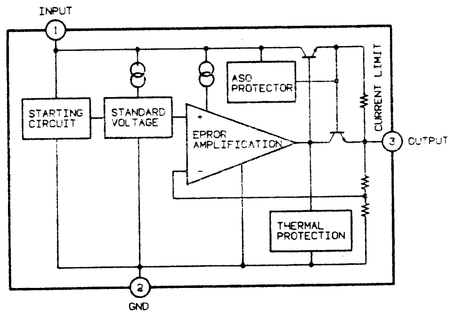

OUT1
-IN1
+IN1
VEE
Vcc
OUT2
-IN2
+IN2
1ch
2ch

IC491 LB1641 (Volume Motor Driver)

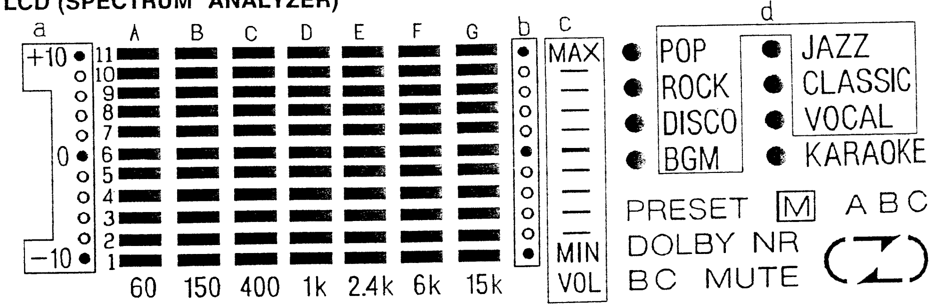

P1
OUT1
VCC2
OUT2
P2
VCC
Pre-Driver
YZ
Input Logic Circuit
IN1
IN2
GND

Input		Output		Action
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	Normal(Reverse)Rotary
0	1	0	1	Reverse(Normal)Rotary
1	1	0	0	Brake

IC493 AN7812F (Voltage Regulator)


INPUT
STARTING CIRCUIT
STANDARD VOLTAGE
ASO PROTECTOR
EPROR AMPLIFICATION
CURRENT LIMIT
OUTPUT
THERMAL PROTECTION
GND

LCD (SPECTRUM ANALYZER)


a
A
B
C
D
E
F
G
b
c
d
+10
0
–10
11
10
9
8
7
6
5
4
3
2
1
60
150
400
1k
2.4k
6k
15k
MAX
MIN
VOL
POP
ROCK
DISCO
BGM
JAZZ
CLASSIC
VOCAL
KARAOKE
PRESET
M
A B C
DOLBY NR
BC MUTE

NO.	COM. 1	COM. 2
1		a
2	A5	B5
3	A4	B4
4	A3	B3
5	A2	B2
6	A1	B1
7		60 · 150
8	C5	D5
9	C4	D4
10	C3	D3
11	C2	D2
12		400 · 1K
13	C1	D1
14	E5	F5
15	E4	F4

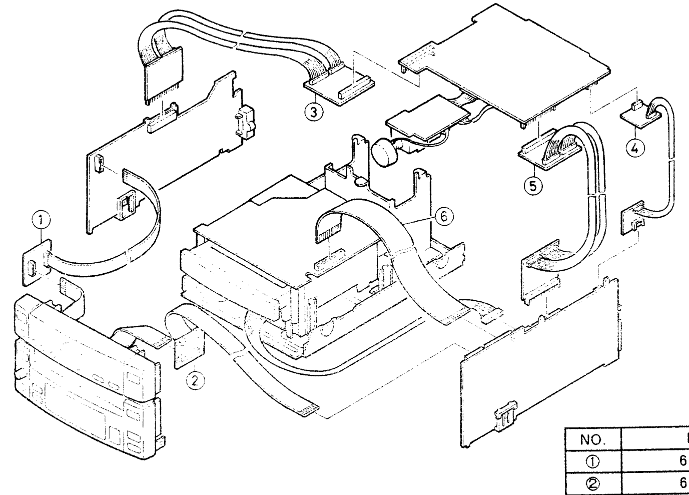
NO.	COM. 1	COM. 2
16	E3	F3
17		2.4K · 6K
18	E2	F2
19	E1	F1
20	G4	B (DOLBY)
21	G3	C (DOLBY)
22	G1	15K
23	G2	c
24		b
25	G5	DOLBY NR
26	G6	PRESET
27	(	MUTE
28	→	←
29	M	)
30	A	● (JAZZ)

NO.	COM. 1	COM. 2
31	B	● (CLAS)
32	C	● (VOCA)
33	KARAOKE	● (KARA)
34	G7	d
35	G8	● (BGM)
36	G9	● (DISC)
37	G10	● (ROCK)
38	G11	● (POP)
39	E8	F8
40	E9	F9
41	E10	F10
42	E11	F11
43	E7	F7
44	E6	F6
45	C9	D9

NO.	COM. 1	COM. 2
46	C9	D9
47	C10	D10
48	C11	D11
49	C8	D8
50	C7	D7
51	C6	D6
52	A10	B10
53	A11	B11
54	A8	B8
55	A7	B7
56	A6	B6
57	COM. 1	
58		COM. 2

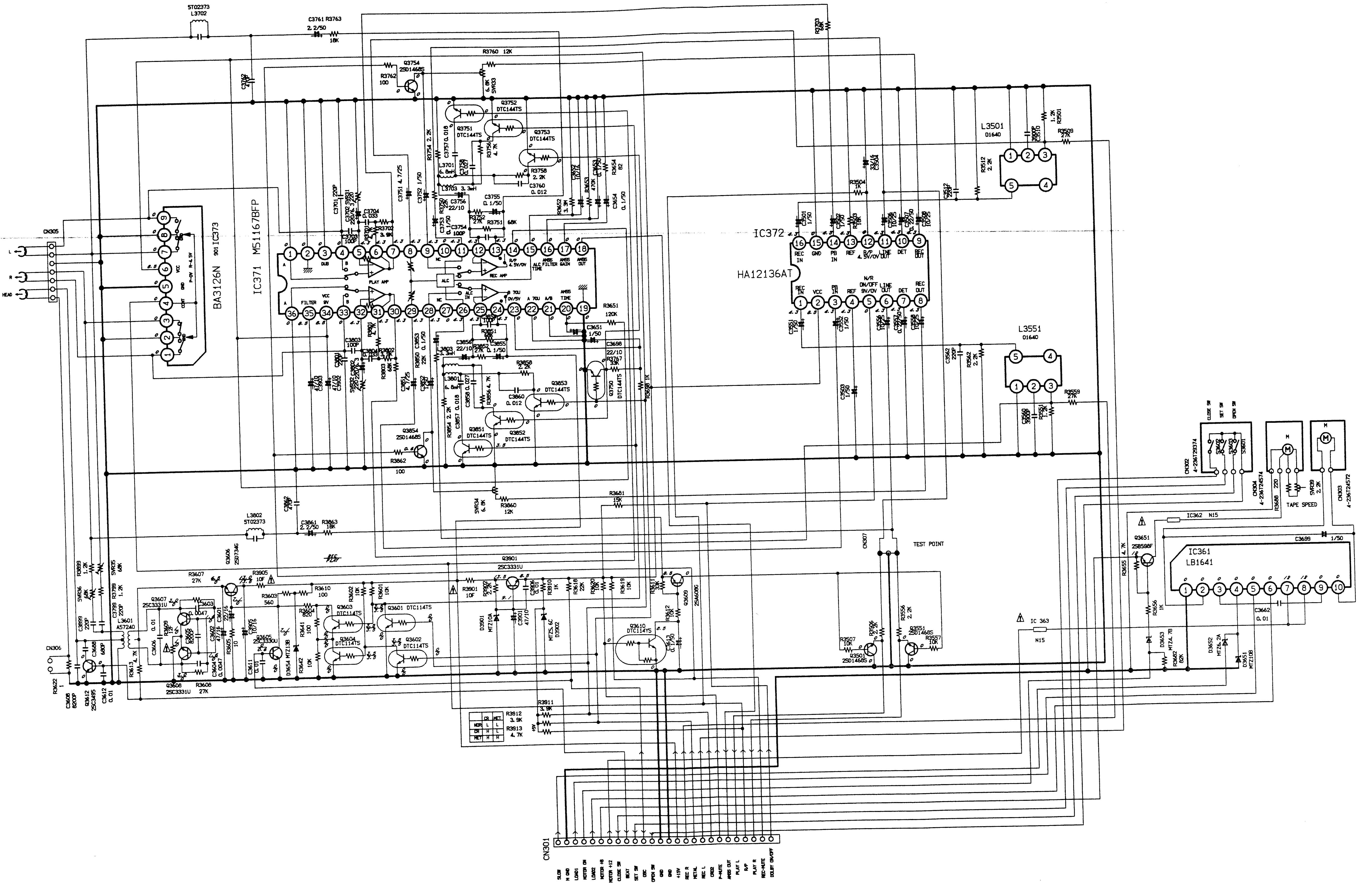
TOOL FOR REPAIRABLE (TAPE DECK / AMPLIFIER UNIT)

Please use the tools (PCB relay cord) for repairable



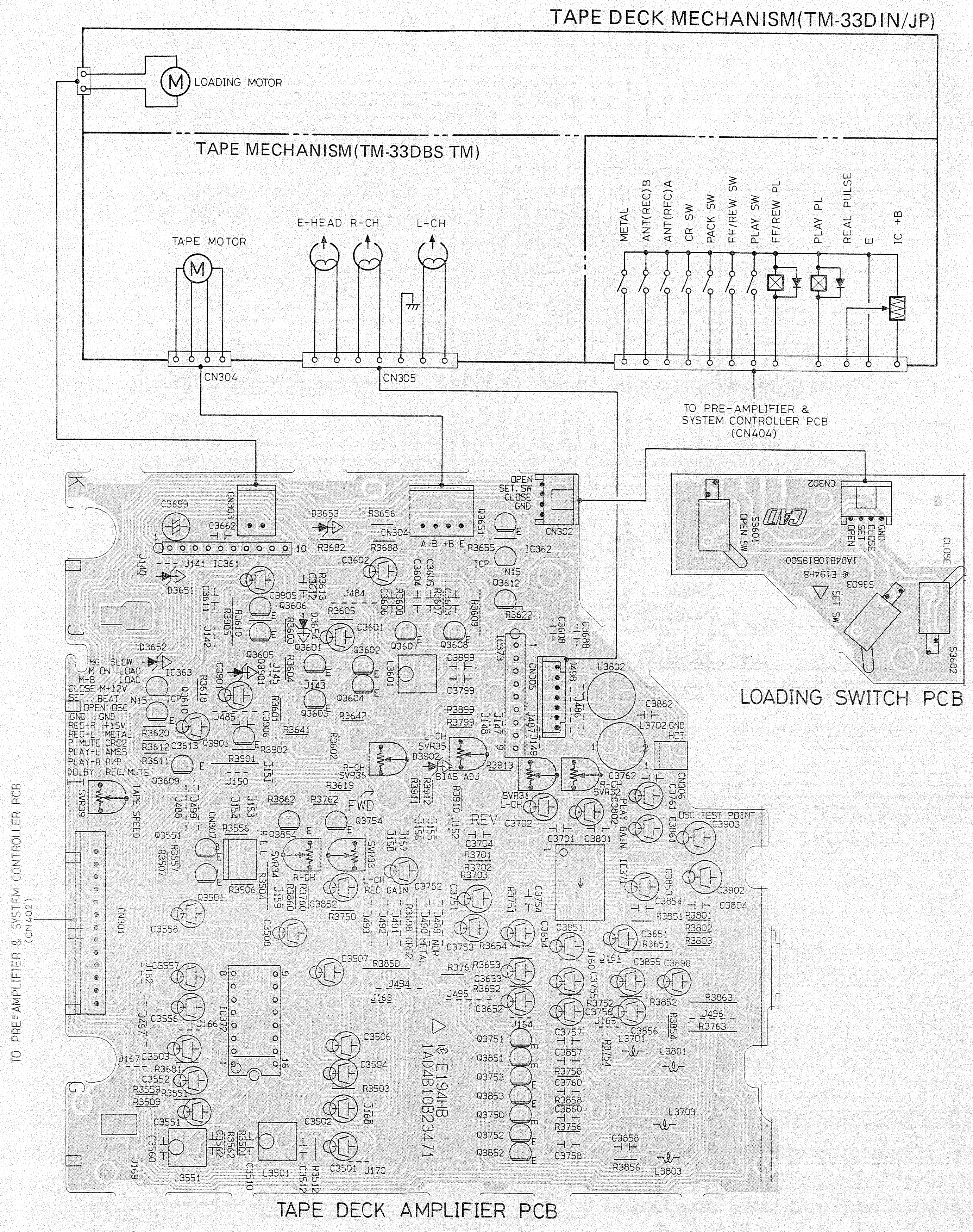
NO.	PARTS CODE
①	614 248 4548
②	614 248 4555
③	614 248 4562
④	614 248 4579
⑤	614 248 4586
⑥	614 248 7259

SCHEMATIC DIAGRAM (TAPE DECK AMPLIFIER)

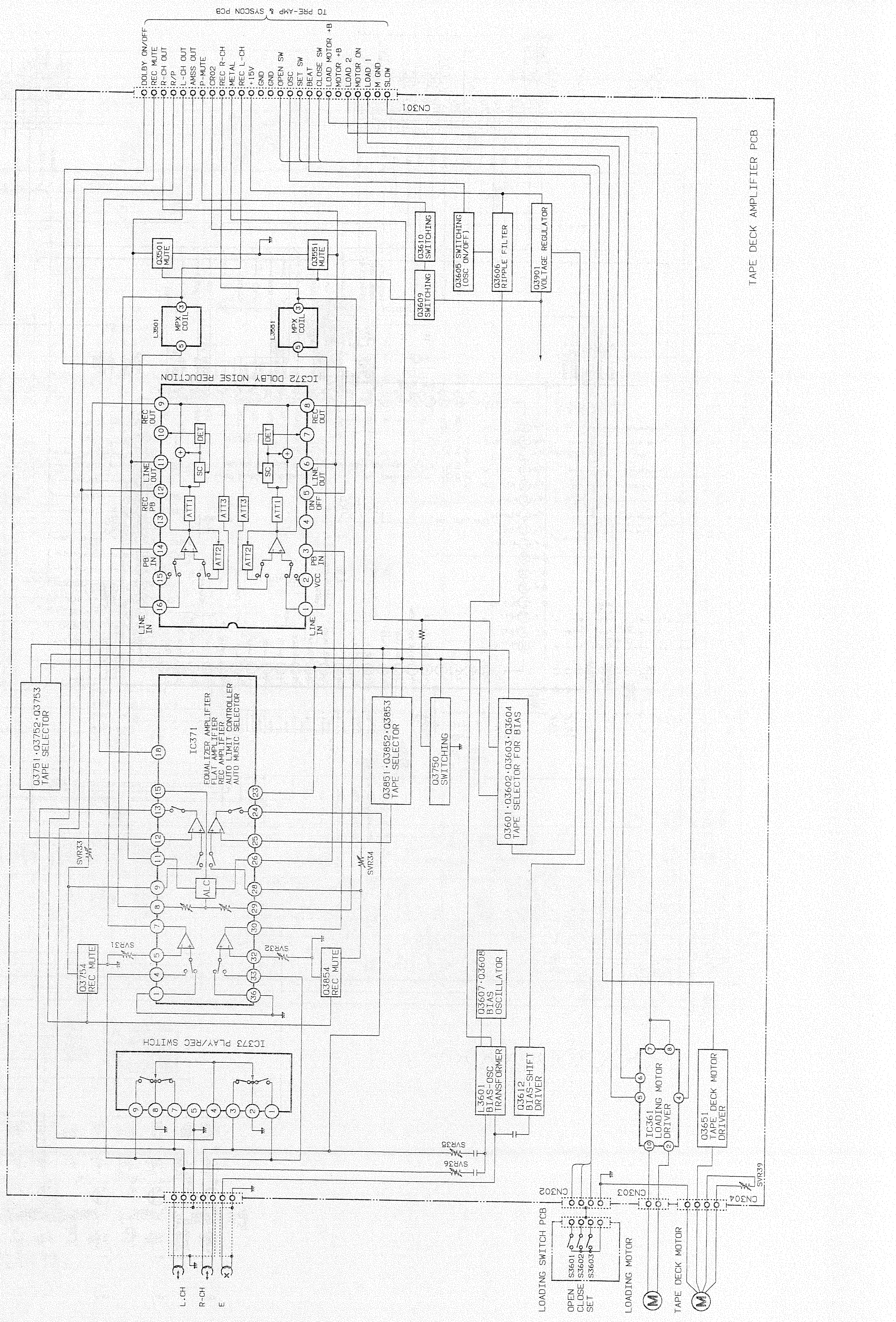


IC371 M51167BFP
BA3126N 901IC373
IC372
HA12136AT
IC361
LB1641
IC362 N15
IC 363
N15
L3501
D1640
L3551
D1640
L3702
L3802
ST02373
CN305
L
R
E HEAD
CN306
CN301
CN302
4-236729374
CN303
4-236724572
CN304
4-236724574
CN307
TEST POINT
TAPE SPEED
SVR39
2.2K
R3688
220
CLOSE SW
SET SW
OPEN SW
Q3754
2SD1468S
Q3752
DTC144TS
Q3751
DTC144TS
Q3753
DTC144TS
Q3853
DTC144TS
Q3851
DTC144TS
Q3852
DTC144TS
Q3854
2SD1468S
Q3901
2SC3331U
Q3607
2SC3331U
Q3608
2SC3331U
Q3605
2SC3330U
Q3603
DTC114TS
Q3601
DTC114TS
Q3604
DTC114TS
Q3602
DTC114TS
Q3610
DTC114YS
Q3609
2SA608G
Q3651
2SB598F
Q3551
2SD1468S
Q3501
2SD1468S
Q3606
2SD734G
L3601
A57240
R3760 12K
R3860
12K
SVR34
6.8K
R3681
15K
C3699
1/50
C3662
0.01
D3901
MTZ10A
D3902
MTZ5.6C
D3654 MTZ13B
D3653
MTZ4.7B
D3652
MTZ6.2A
D3651
MTZ10B
R3911
3.9K
R3912
3.9K
R3913
4.7K
CR
MET
NOR
L
L
CR
H
L
MET
H
H
SLOW
M GND
LOAD1
MOTOR ON
LOAD2
MOTOR +B
MOTOR +12
CLOSE SW
SET SW
OPEN SW
OSC
GND
+15V
REC R
METAL
REC L
CRO2
P-MUTE
AMS OUT
PLAY L
R/P
PLAY R
REC-MUTE
DOLBY ON/OFF
REC IN
GND
PB IN
REF
R/P
LINE DET
REC OUT
N/R ON/OFF
VCC
FILTER
PLAY AMP
REC AMP
ALC
AMS

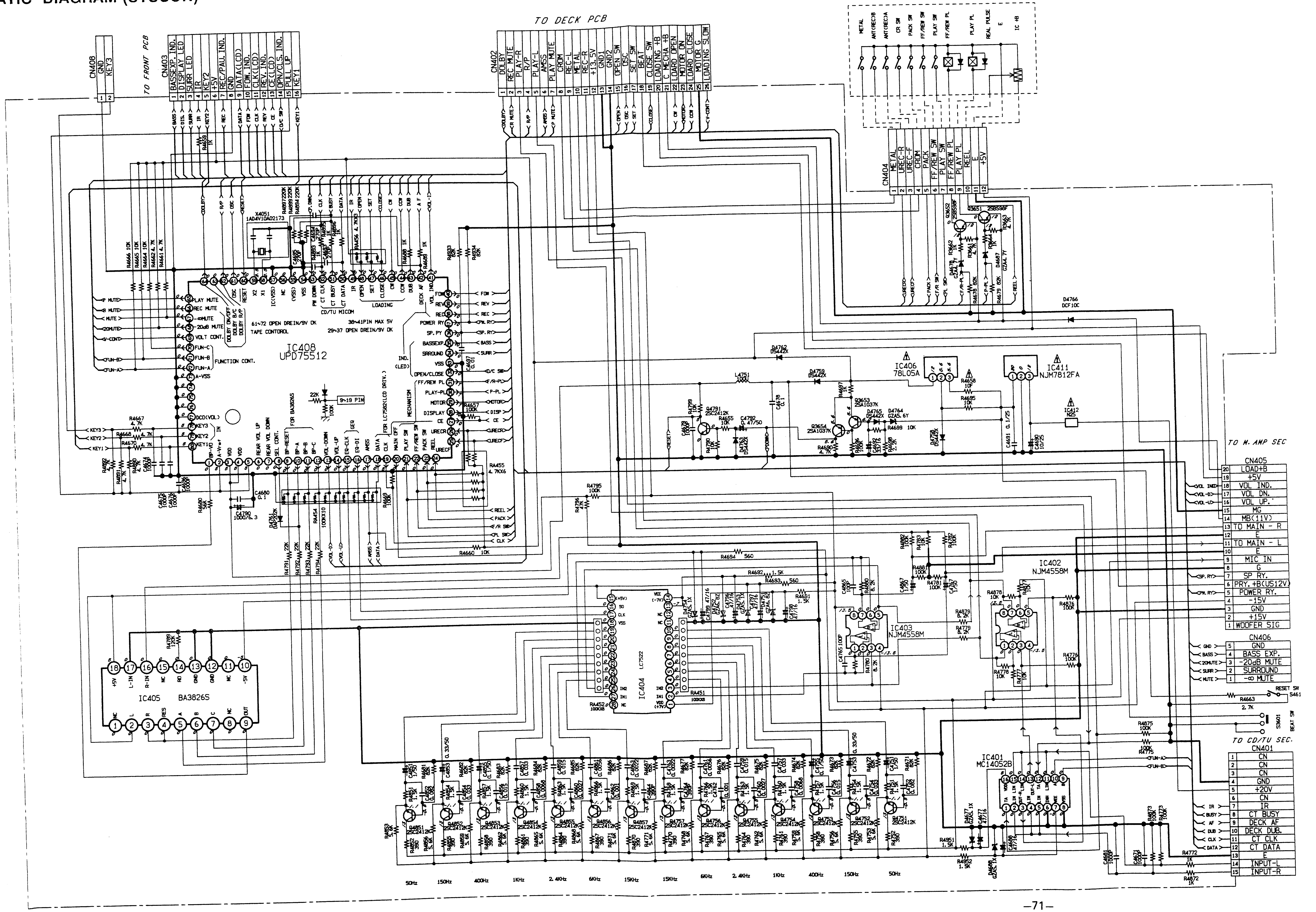
WIRING DIAGRAM (TAPE DECK AMPLIFIER)


TAPE DECK MECHANISM(TM-33DIN/JP)
LOADING MOTOR
TAPE MECHANISM(TM-33DBS TM)
TAPE MOTOR
E-HEAD R-CH
L-CH
METAL
ANT(REC)B
ANT(REC)A
CR SW
PACK SW
FF/REW SW
PLAY SW
FF/REW PL
PLAY PL
REAL PULSE
E
IC +B
CN304
CN305
TO PRE-AMPLIFIER & SYSTEM CONTROLLER PCB (CN404)
LOADING SWITCH PCB
CN302
S3601 OPEN SW
S3603 SET SW
S3602 CLOSE
1AD4B10B19500
E194HB
TO PRE-AMPLIFIER & SYSTEM CONTROLLER PCB (CN402)
CN301
CN303
IC361
IC362
IC363
IC371
IC372
IC373
BIAS ADJ
PLAY GAIN
REC GAIN
TAPE SPEED
OSC TEST POINT
FWD
REV
1AD4B10B23471
E194HB
TAPE DECK AMPLIFIER PCB

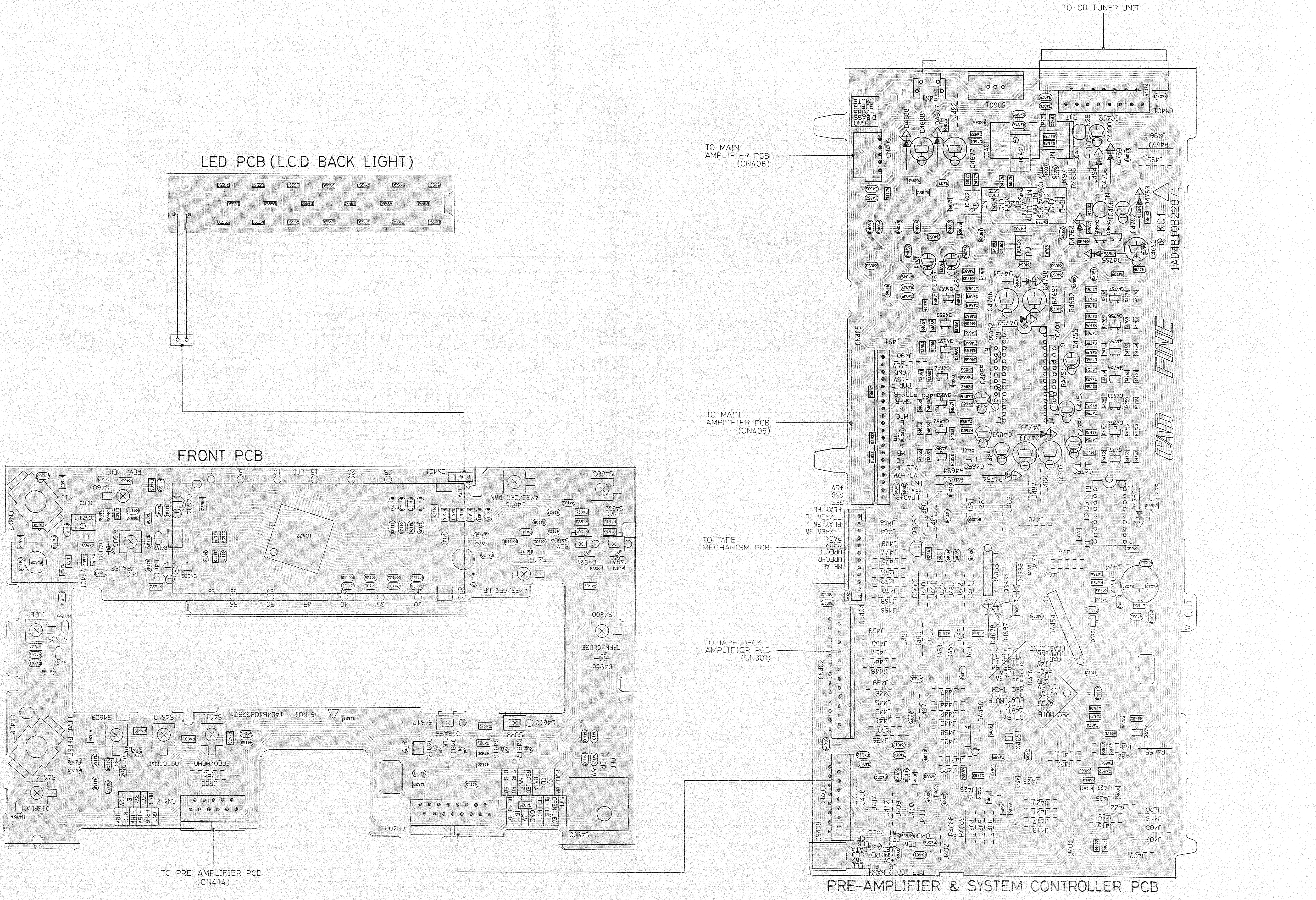
BLOCK DIAGRAM (TAPE DECK AMPLIFIER)


TO PRE-AMP & SYSCON PCB
DOLBY ON/OFF
REC MUTE
R-CH OUT
R/P
L-CH OUT
AMSS OUT
P-MUTE
CRO2
REC R-CH
METAL
REC L-CH
-15V
GND
GND
OPEN SW
OSC
SET SW
BEAT
CLOSE SW
LOAD MOTOR +B
MOTOR +B
LOAD 2
MOTOR ON
LOAD 1
M GND
SLOW
CN301
TAPE DECK AMPLIFIER PCB
Q3501 MUTE
Q3551 MUTE
Q3610 SWITCHING
Q3609 SWITCHING
Q3605 SWITCHING (OSC ON/OFF)
Q3606 RIPPLE FILTER
Q3901 VOLTAGE REGULATOR
L3501 MPX COIL
L3551 MPX COIL
IC372 DOLBY NOISE REDUCTION
REC OUT
LINE OUT
REC PB
PB IN
LINE IN
VCC
DET
SC
ATT1
ATT2
ATT3
Q3751·Q3752·Q3753 TAPE SELECTOR
IC371 EQUALIZER AMPLIFIER FLAT AMPLIFIER REC AMPLIFIER AUTO LEVEL CONTROLLER AUTO MUSIC SELECTOR
ALC
SVR33
SVR34
SVR31
SVR32
Q3851·Q3852·Q3853 TAPE SELECTOR
Q3750 SWITCHING
Q3601·Q3602·Q3603·Q3604 TAPE SELECTOR FOR BIAS
Q3754 REC MUTE
Q3854 REC MUTE
Q3607·Q3608 BIAS OSCILLATOR
IC373 PLAY/REC SWITCH
T3601 BIAS-OSC TRANSFORMER
Q3612 BIAS SHIFT DRIVER
IC361 LOADING MOTOR DRIVER
Q3651 TAPE DECK MOTOR DRIVER
SVR35
SVR36
SVR39
CN302
CN303
CN304
L-CH
R-CH
E
LOADING SWITCH PCB
S3601 OPEN
S3602 CLOSE
S3603 SET
LOADING MOTOR
TAPE DECK MOTOR

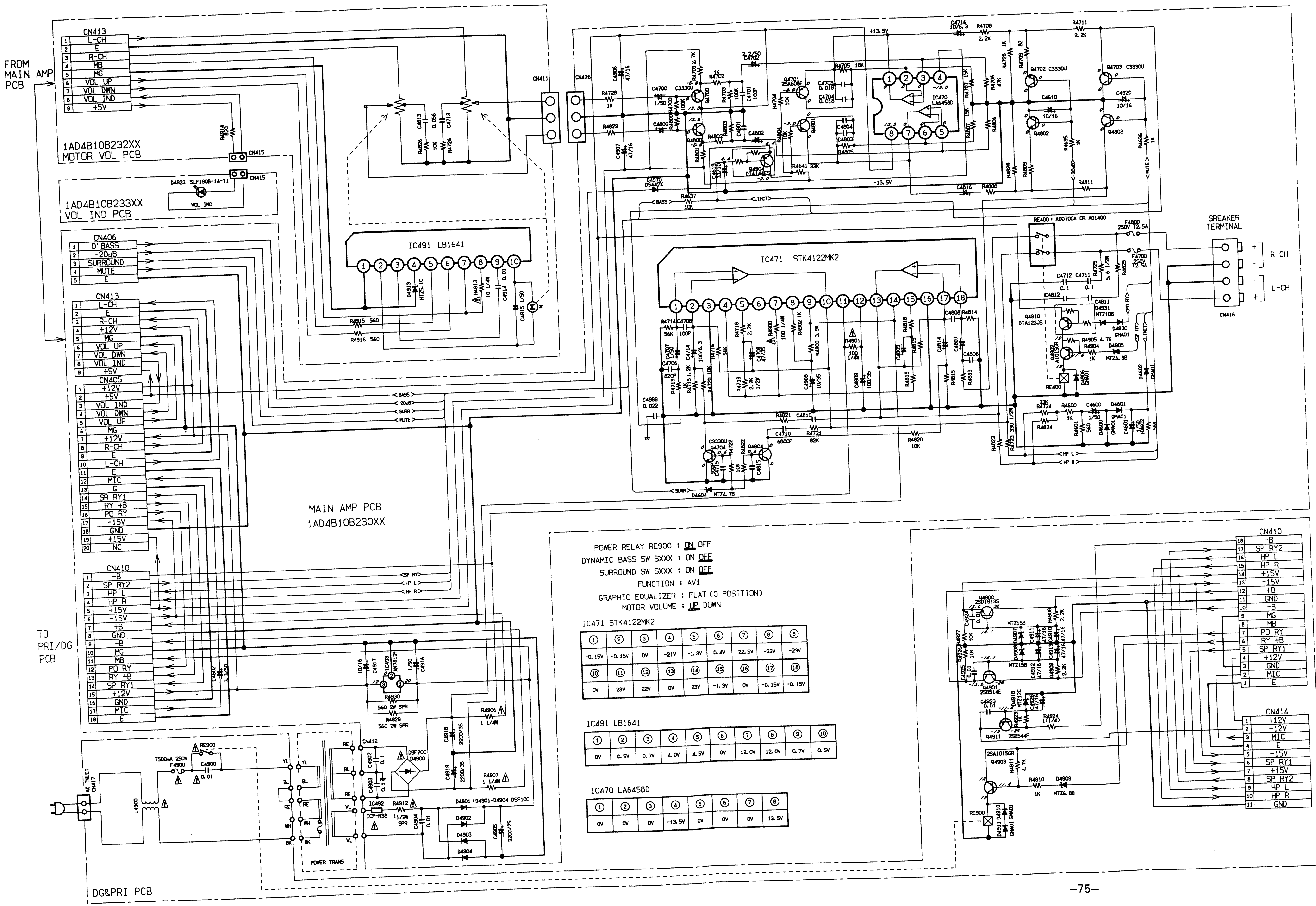
SCHEMATIC DIAGRAM (SYSCON)


TO FRONT PCB
CN408
1 GND
2 KEY3
CN403
1 BASSEXP. IND.
2 DISPLAY LED
3 SURR LED
4 IR
5 KEY2
6 +5V
7 REC/PAUL IND.
8 GND
9 DATA(LCD)
10 FOW. IND.
11 CLK(LCD)
12 REV. IND.
13 CE(LCD)
14 OPN/CLS. IND.
15 PULL UP
16 KEY1
TO DECK PCB
CN402
1 DOLBY
2 REC MUTE
3 PLAY-R
4 R/P
5 PLAY-L
6 AMSS
7 PLAY MUTE
8 CROM
9 REC-L
10 METAL
11 REC-R
12 +13.5V
13 GND1
14 GND2
15 OPEN SW
16 OSC
17 SET SW
18 BEAT
19 CLOSE SW
20 LOADING +B
21 C.MECHA +B
22 LOARD OPEN
23 MOTOR ON
24 LOARD CLOSE
25 MOTOR G
26 LOADING SLOW
METAL
ANT(REC)B
ANT(REC)A
CR SW
PACK SW
FF/REW SW
PLAY SW
FF/REW PL
PLAY PL
REAL PULSE
E
IC HB
CN404
1 METAL
2 UREC-R
3 UREC-F
4 CROM
5 PACK
6 FF/REW SW
7 PLAY SW
8 FF/REW PL
9 PLAY PL
10 REEL
11 E
12 +5V
X4051
1AD4V10A02173
IC408
UPD75512
CD/TU MICOM
61~72 OPEN DREIN/9V CK
TAPE CONTOROL
38~41PIN MAX 5V
29~37 OPEN DREIN/9V CK
LOADING
FUNCTION CONT.
PLAY MUTE
REC MUTE
-∞MUTE
20dB MUTE
VOLT CONT.
FUN-C
FUN-B
FUN-A
A-VSS
DCD(VOL)
KEY3
KEY2
KEY1
FOW
REV
REC
POWER RY
SP. RY
BASSEXP.
SRROUND
VSS
IND.
(LED)
OPEN/CLOSE
FF/REW PL
PLAY-PL
MOTOR
DISPLAY
CE
URECR
URECF
FOR LC7582(LCD DRIV.)
MECHANISM
FOR BA3826S
REAR VOL UP
REAR VOL DOWN
SEL CONT.
BP-RESET
VOL-DOWN
VOL-UP
EQ-CLK
EQ-DI
AMSS
DATA
CLK
MAIN OFF
PLAY SW
FF/REW SW
PACK SW
REEL
9~19 PIN
R4667 4.7K
R4668 4.7K
R4670 4.7K
R4666 10K
R4665 10K
R4664 10K
R4662 4.7K
R4661 4.7K
R4455 4.7KX6
R4454 100KX10
R4660 10K
R4795 100K
R4796 4.7K
C4790 1000/6.3
C4680 0.1
IC405 BA3826S
IC404 LC7522
R4451 100KX8
R4452 100KX8
R4694 560
R4692 1.5K
R4693 560
R4691 1.5K
IC406 78L05A
IC411 NJM7812FA
IC412 N25
L4751
D4762 DS442X
D4759 DS442X
Q4791 2SC2412K
Q3654 2SA1037K
Q3653 2SA1037K
Q3652 2SB596F
Q3651 2SB596F
D4765 DS442X
D4764 GZA5.6Y
R4699 10K
R4658 10F
R4695 10K
D4766 DCF10C
IC403 NJM4558M
IC402 NJM4558M
IC401 MC14052B
TO M. AMP SEC
CN405
20 LOAD+B
19 +5V
18 VOL IND.
17 VOL DN.
16 VOL UP.
15 MG
14 MB(11V)
13 TO MAIN - R
12 E
11 TO MAIN - L
10 E
9 MIC IN
8 G
7 SP RY.
6 PRY.+B(US12V)
5 POWER RY.
4 -15V
3 GND
2 +15V
1 WOOFER SIG
CN406
5 GND
4 BASS EXP.
3 -20dB MUTE
2 SURROUND
1 -∞ MUTE
RESET SW S461
R4663 2.7K
S3601 BEAT SW
TO CD/TU SEC.
CN401
1 CN
2 CN
3 CN
4 GND
5 +20V
6 CN
7 IR
8 CT BUSY
9 DECK AF
10 DECK DUB.
11 CT CLK
12 CT DATA
13 E
14 INPUT-L
15 INPUT-R
R4951 1.5K
R4952 1.5K
R4772 1K
R4872 1K
50Hz
150Hz
400Hz
1KHz
2.4KHz
6KHz
15KHz
15KHz
6KHz
2.4KHz
1KHz
400Hz
150Hz
50Hz
2SC2412K

WIRING DIAGRAM (SYSCON & FRONT)


LED PCB (L.C.D BACK LIGHT)
FRONT PCB
TO PRE AMPLIFIER PCB (CN414)
TO CD TUNER UNIT
TO MAIN AMPLIFIER PCB (CN406)
TO MAIN AMPLIFIER PCB (CN405)
TO TAPE MECHANISM PCB
TO TAPE DECK AMPLIFIER PCB (CN301)
CAD FINE
1AD4B10B22871
K01
V-CUT
PRE-AMPLIFIER & SYSTEM CONTROLLER PCB

SCHEMATIC DIAGRAM (POWER AMPLIFIER)


FROM MAIN AMP PCB
CN413
L-CH
E
R-CH
MB
MG
VOL UP
VOL DWN
VOL IND
+5V
1AD4B10B232XX
MOTOR VOL PCB
CN415
D4923 SLP190B-14-T1
VOL IND
1AD4B10B233XX
VOL IND PCB
CN406
D' BASS
-20dB
SURROUND
MUTE
CN405
+12V
MIC
G
SR RY1
RY +B
PO RY
-15V
GND
+15V
NC
CN410
-B
SP RY2
HP L
HP R
+B
MG
MB
TO PRI/DG PCB
IC491 LB1641
CN411
CN426
IC470 LA6458D
Q4700 C3330U
Q4701 2SA608F
Q4702 C3330U
Q4703 C3330U
Q4802
Q4803
Q4904 DTA144ES
IC471 STK4122MK2
RE400 : A00700A OR A01400
F4800 250V T2.5A
F4700 250V T2.5A
SREAKER TERMINAL
R-CH
L-CH
CN416
Q4910 DTA123JS
D4930 GMA01
D4931 MTZ10B
D4905 MTZ6.8B
D4604 MTZ4.7B
C3330U Q4704
Q4804
D4970 DS442X
MAIN AMP PCB
1AD4B10B230XX
AC INLET CN417
T500mA 250V F4900
RE900
C4900 0.01
L4900
POWER TRANS
CN412
DBF20C D4900
IC492 ICP-N38
IC483 AN7812F
D4901 : D4901-D4904 DSF10C
C4918 2200/35
C4919 2200/35
C4905 2200/25
R4906 1 1/4W
R4907 1 1/4W
R4930 560 2W SPR
R4929 560 2W SPR
DG&PRI PCB
Q4900 2SD1913S
Q4901 2SB514E
Q4911 2SB544F
Q4903 2SA1015GR
MTZ15B
MTZ12C
D4909 MTZ6.8B
D4910 D4911 GMA01
RE900
CN410
TO MAIN AMP PCB
CN414
+12V
-12V
MIC
E
-15V
SP RY1
+15V
SP RY2
HP L
HP R
GND
TO FRONT PCB

POWER RELAY RE900 : [✓ ON] OFF
DYNAMIC BASS SW SXXX : ON [✓ OFF]
SURROUND SW SXXX : ON [✓ OFF]
FUNCTION : AV1
GRAPHIC EQUALIZER : FLAT (0 POSITION)
MOTOR VOLUME : [✓ UP] DOWN

IC471 STK4122MK2

①	②	③	④	⑤	⑥	⑦	⑧	⑨
-0.15V	-0.15V	0V	-21V	-1.3V	0.4V	-22.5V	-23V	-23V
⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱
0V	23V	22V	0V	23V	-1.3V	0V	-0.15V	-0.15V

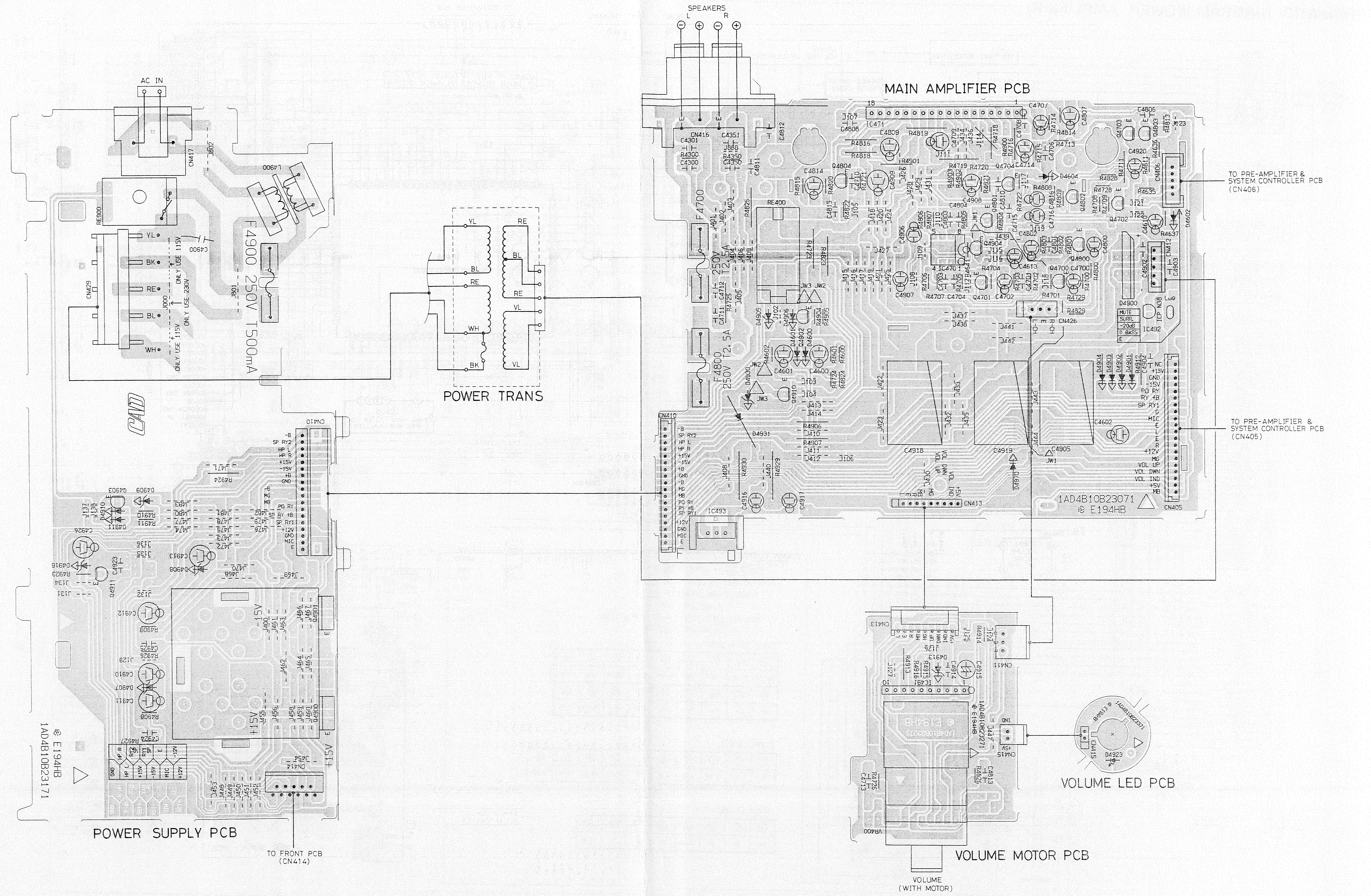
IC491 LB1641

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
0V	0.5V	0.7V	4.0V	4.5V	0V	12.0V	12.0V	0.7V	0.5V

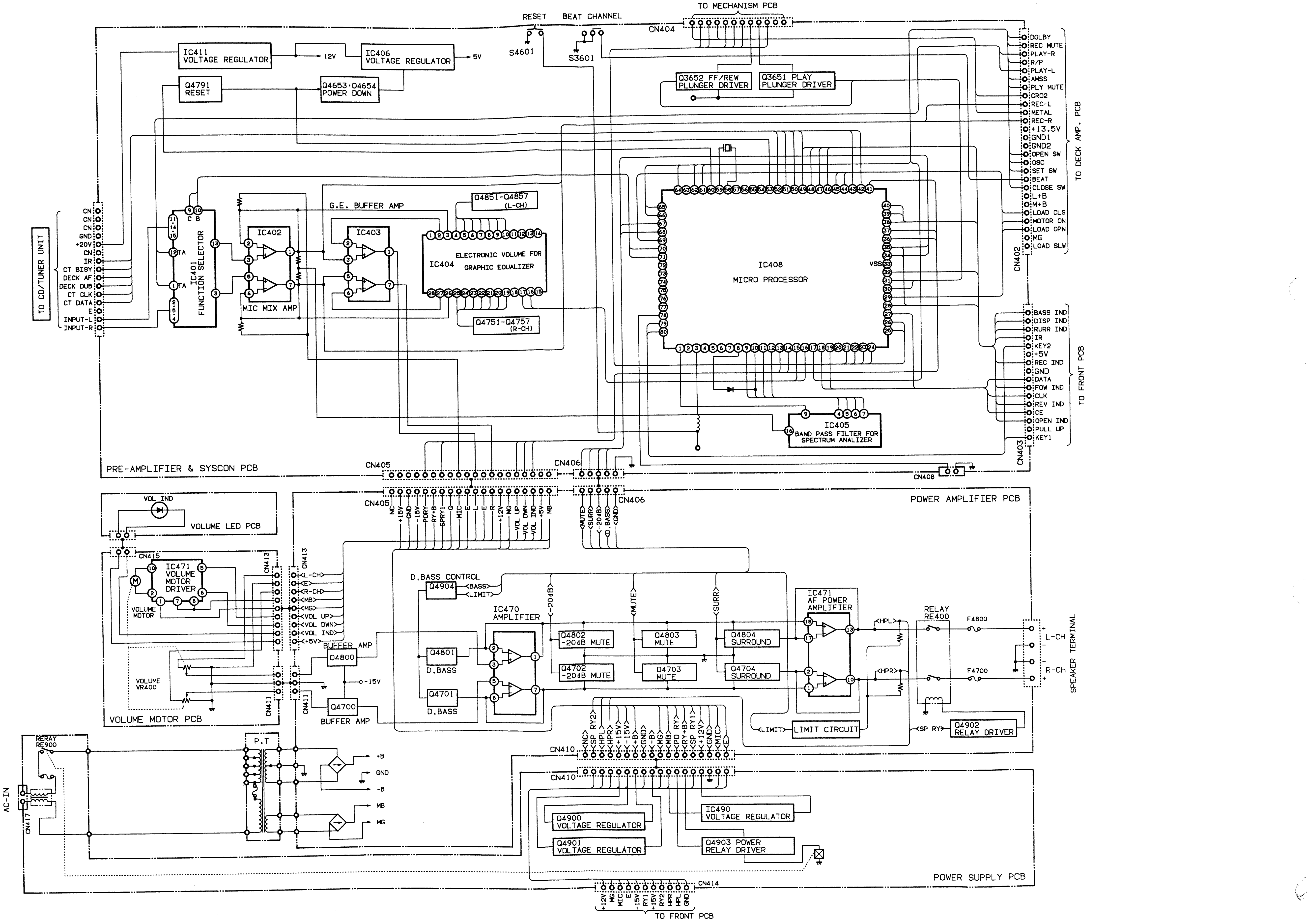
IC470 LA6458D

①	②	③	④	⑤	⑥	⑦	⑧
0V	0V	0V	-13.5V	0V	0V	0V	13.5V

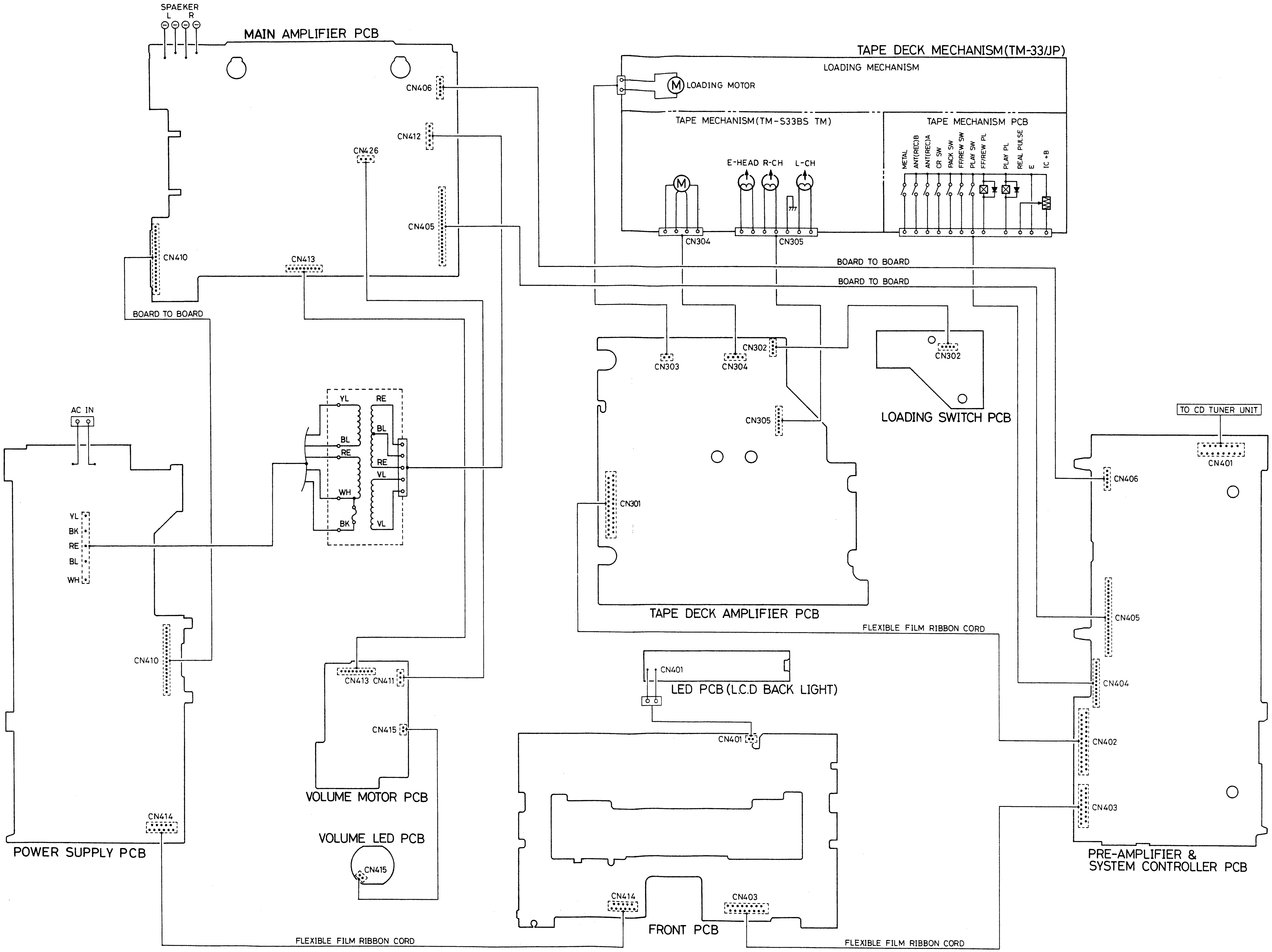
WIRING DIAGRAM (POWER AMPLIFIER)


SPEAKERS
L
R
AC IN
MAIN AMPLIFIER PCB
POWER TRANS
YL
BK
RE
BL
WH
VL
ONLY USE 115V
ONLY USE 230V
F4900 250V T500mA
F4700 250V T2.5A
F4800 250V T2.5A
TO PRE-AMPLIFIER & SYSTEM CONTROLLER PCB (CN406)
TO PRE-AMPLIFIER & SYSTEM CONTROLLER PCB (CN405)
1AD4B10B23071
E194HB
1AD4B10B23171
POWER SUPPLY PCB
TO FRONT PCB (CN414)
VOLUME LED PCB
VOLUME MOTOR PCB
VOLUME (WITH MOTOR)

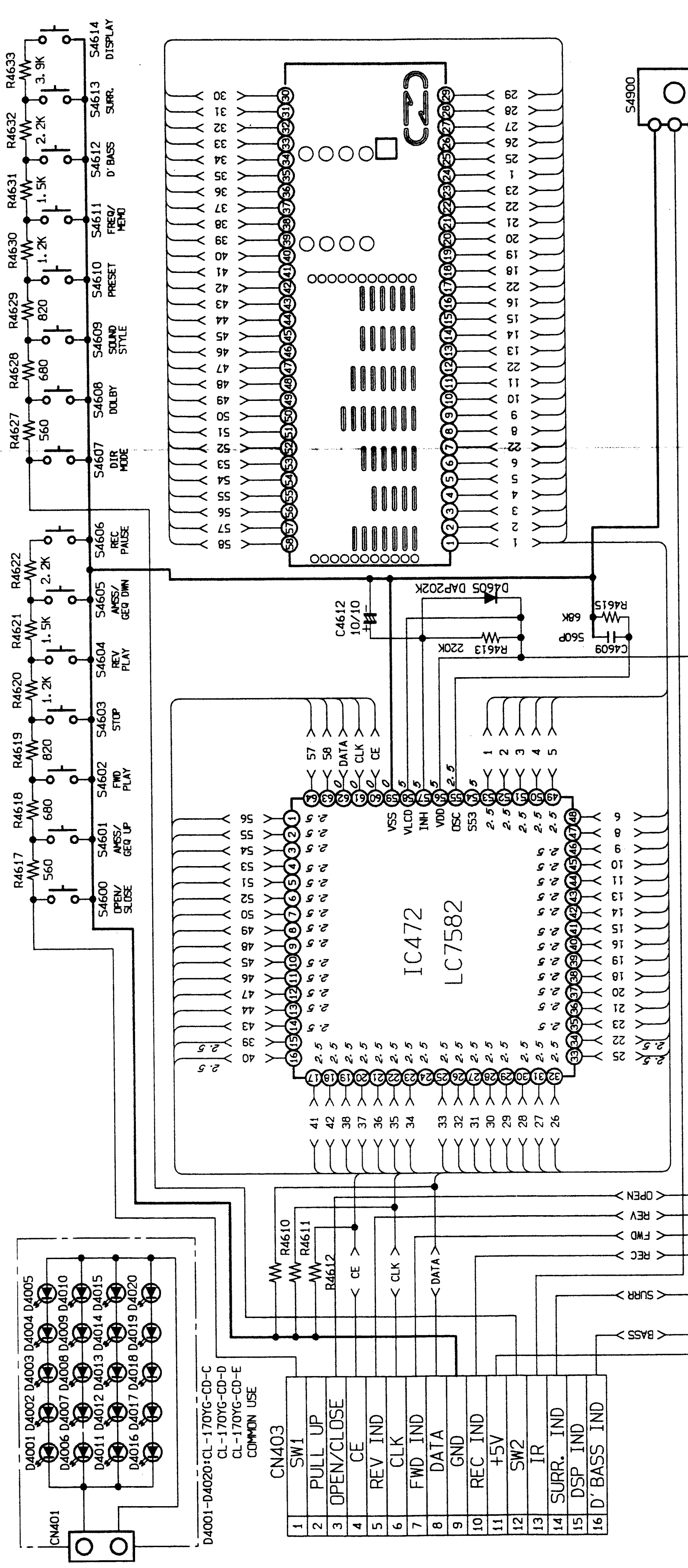
BLOCK DIAGRAM (SYSCON & AMPLIFIER)


TO MECHANISM PCB
RESET
BEAT CHANNEL
CN404
S4601
S3601
IC411 VOLTAGE REGULATOR
12V
IC406 VOLTAGE REGULATOR
5V
Q4791 RESET
Q4653·Q4654 POWER DOWN
Q3652 FF/REW PLUNGER DRIVER
Q3651 PLAY PLUNGER DRIVER
DOLBY
REC MUTE
PLAY-R
R/P
PLAY-L
AMSS
PLY MUTE
CRO2
REC-L
METAL
REC-R
+13.5V
GND1
GND2
OPEN SW
OSC
SET SW
BEAT
CLOSE SW
L+B
M+B
LOAD CLS
MOTOR ON
LOAD OPN
MG
LOAD SLW
CN402
TO DECK AMP. PCB
TO CD/TUNER UNIT
CN
CN
CN
GND
+20V
CN
IR
CT BISY
DECK AF
DECK DUB
CT CLK
CT DATA
E
INPUT-L
INPUT-R
IC401 FUNCTION SELECTOR
IC402
MIC MIX AMP
G.E. BUFFER AMP
IC403
Q4851-Q4857 (L-CH)
IC404 ELECTRONIC VOLUME FOR GRAPHIC EQUALIZER
Q4751-Q4757 (R-CH)
IC408 MICRO PROCESSOR
VSS
IC405 BAND PASS FILTER FOR SPECTRUM ANALIZER
BASS IND
DISP IND
RURR IND
IR
KEY2
+5V
REC IND
GND
DATA
FOW IND
CLK
REV IND
CE
OPEN IND
PULL UP
KEY1
CN403
TO FRONT PCB
PRE-AMPLIFIER & SYSCON PCB
CN405
CN406
CN408
VOL IND
VOLUME LED PCB
CN415
NC
+15V
GND
-15V
PORY
RY+B
SPRY1
G
MIC
E
L
E
R
+12V
MG
VOL UP
VOL DWN
VOL IND
+5V
MB
MUTE
SURR
-20dB
D.BASS
GND
POWER AMPLIFIER PCB
IC471 VOLUME MOTOR DRIVER
M
VOLUME MOTOR
CN413
L-CH
E
R-CH
MB
MG
VOL UP
VOL DWN
VOL IND
+5V
VOLUME VR400
CN411
VOLUME MOTOR PCB
BUFFER AMP
Q4800
-15V
Q4700
BUFFER AMP
D.BASS CONTROL
Q4904
BASS
LIMIT
IC470 AMPLIFIER
Q4801 D.BASS
Q4701 D.BASS
-20dB
MUTE
SURR
Q4802 -20dB MUTE
Q4803 MUTE
Q4804 SURROUND
Q4702 -20dB MUTE
Q4703 MUTE
Q4704 SURROUND
IC471 AF POWER AMPLIFIER
HPL
HPR
RELAY RE400
F4800
F4700
L-CH
R-CH
SPEAKER TERMINAL
LIMIT
LIMIT CIRCUIT
SP RY
Q4902 RELAY DRIVER
NC
SP RY2
HPL
HPR
+15V
-15V
+B
GND
-B
MG
PO RY
RY+B
SP RY1
+12V
GND
MIC
E
CN410
RERAY RE900
AC-IN
CN417
P.T
+B
GND
-B
MB
MG
IC490 VOLTAGE REGULATOR
Q4900 VOLTAGE REGULATOR
Q4901 VOLTAGE REGULATOR
Q4903 POWER RELAY DRIVER
POWER SUPPLY PCB
CN414
+12V
MG
MIC
E
-15V
RY1
+15V
RY2
HPR
HPL
GND
TO FRONT PCB

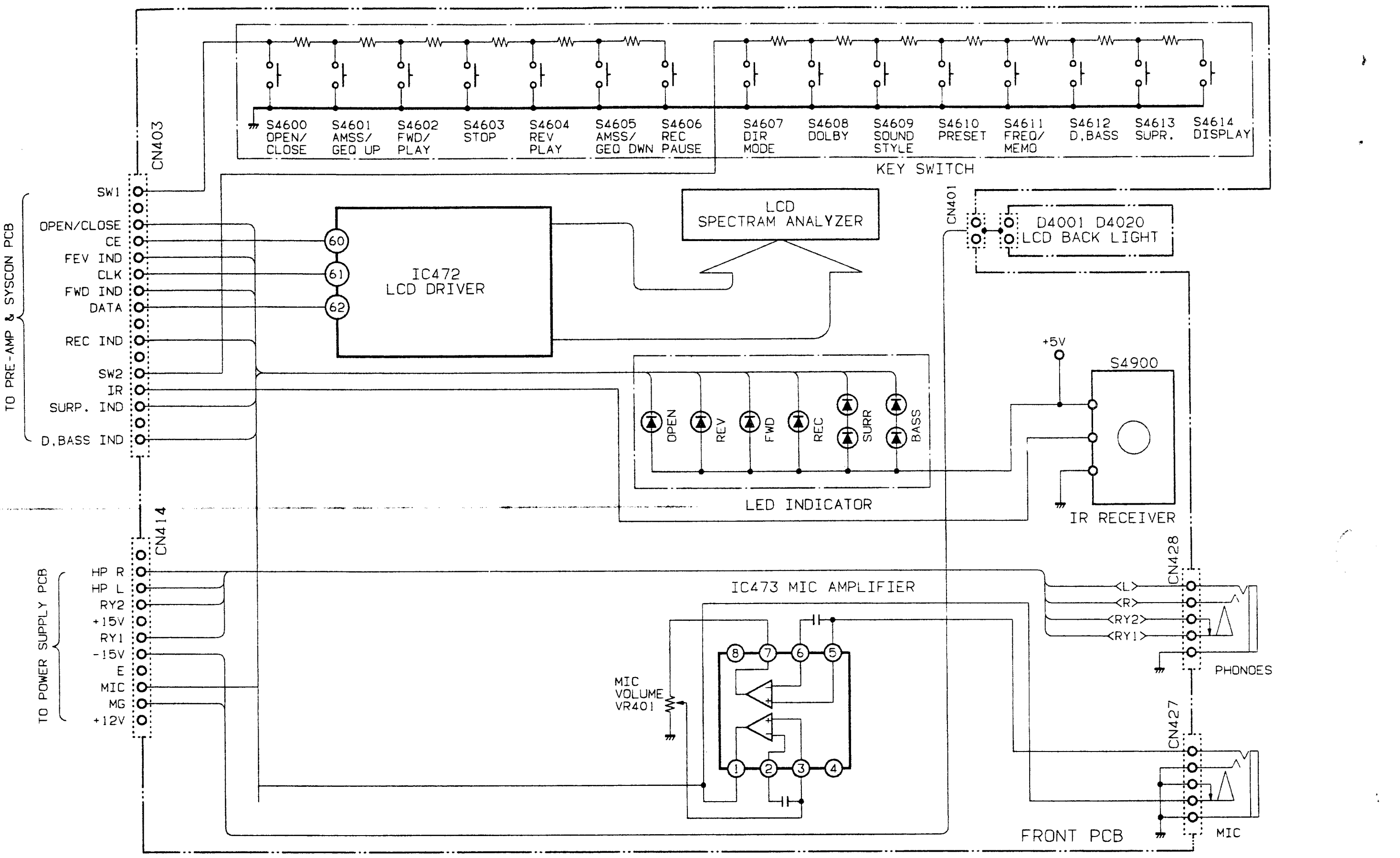
WIRING CONNECTION (TAPE DECK / AMPLIFIER UNIT)


SPAEKER
L R
MAIN AMPLIFIER PCB
CN406
CN412
CN426
CN405
CN410
CN413
BOARD TO BOARD
TAPE DECK MECHANISM(TM-33/JP)
LOADING MECHANISM
LOADING MOTOR
TAPE MECHANISM(TM-S33BS TM)
E-HEAD R-CH L-CH
TAPE MECHANISM PCB
METAL
ANT(REC)B
ANT(REC)A
CR SW
PACK SW
FF/REW SW
PLAY SW
FF/REW PL
PLAY PL
REAL PULSE
E
IC +B
CN304
CN305
BOARD TO BOARD
BOARD TO BOARD
CN302
CN303
CN304
CN302
LOADING SWITCH PCB
CN305
CN301
TAPE DECK AMPLIFIER PCB
TO CD TUNER UNIT
CN401
CN406
CN405
CN404
CN402
CN403
PRE-AMPLIFIER &
SYSTEM CONTROLLER PCB
AC IN
YL
RE
BL
BL
RE
RE
VL
WH
BK
VL
YL
BK
RE
BL
WH
CN410
POWER SUPPLY PCB
CN414
CN413 CN411
CN415
VOLUME MOTOR PCB
VOLUME LED PCB
CN415
FLEXIBLE FILM RIBBON CORD
CN401
LED PCB (L.C.D BACK LIGHT)
CN401
CN414
CN403
FRONT PCB
FLEXIBLE FILM RIBBON CORD
FLEXIBLE FILM RIBBON CORD

SCHEMATIC DIAGRAM (FRONT)


S4600 OPEN/CLOSE
S4601 AMSS/GEQ UP
S4602 FWD PLAY
S4603 STOP
S4604 REV PLAY
S4605 AMSS/GEQ DWN
S4606 REC PAUSE
S4607 DIR MODE
S4608 DOLBY
S4609 SOUND STYLE
S4610 PRESET
S4611 FREQ/MEMO
S4612 D'BASS
S4613 SURR.
S4614 DISPLAY
IC472 LC7582
IC473 NJM4558M
S4900
CN427
CN428
VR401 10K(B)
D4605 DAP202K
CN403
SW1
PULL UP
OPEN/CLOSE
CE
REV IND
CLK
FWD IND
DATA
GND
REC IND
+5V
SW2
IR
SURR. IND
DSP IND
D'BASS IND
CN414
GND
HP L
HP R
RY2
+15V
RY1
-15V
E
MIC
-12V
+12V
CN401
-12V
MG
D4001-D4020:CL-170YG-CD-C
CL-170YG-CD-D
CL-170YG-CD-E
COMMON USE

BLOCK DIAGRAM (FRONT)


S4600 OPEN/CLOSE
S4601 AMSS/GEQ UP
S4602 FWD/PLAY
S4603 STOP
S4604 REV PLAY
S4605 AMSS/GEQ DWN
S4606 REC PAUSE
S4607 DIR MODE
S4608 DOLBY
S4609 SOUND STYLE
S4610 PRESET
S4611 FREQ/MEMO
S4612 D.BASS
S4613 SURR.
S4614 DISPLAY
KEY SWITCH
CN403
SW1
OPEN/CLOSE
CE
FEV IND
CLK
FWD IND
DATA
REC IND
SW2
IR
SURP. IND
D.BASS IND
TO PRE-AMP & SYSCON PCB
IC472 LCD DRIVER
LCD SPECTRAM ANALYZER
CN401
D4001 D4020 LCD BACK LIGHT
+5V
S4900
LED INDICATOR
OPEN
REV
FWD
REC
SURR
BASS
IR RECEIVER
CN414
HP R
HP L
RY2
+15V
RY1
-15V
E
MIC
MG
+12V
TO POWER SUPPLY PCB
IC473 MIC AMPLIFIER
MIC VOLUME VR401
CN428
PHONDES
CN427
FRONT PCB
MIC

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Technisches Labor/ Qualitätskontrolle	Durchwahl -122/121

Service-Zentrale

Color TV	-166
Hi-Fi/Audio	-168
Video	-172
Autoradio	-170
Ersatzteillager	-155/156/160/164
Techn. Schulung	-174

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Bitte geben Sie unbedingt die Ersatzteil-Nummer und die Modellbezeichnung an.
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